STRATEGIC AND ECONOMIC PROSPECTS OF GWADAR PORT AS A TRADE AND ENERGY CORRIDOR FOR PAKISTAN

PH. D Thesis

By

Inayat Kaleem

Department of International Relations

University of Peshawar

Khyber Pakhtunkhwa

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Inayat Kaleem

DISSERTATION

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Certified that Mr. Inayat Kaleem S/o Muhammad Kalim Ullah has carried out his research on the topic entitled as "Geo- Strategic and Economic Prospects of Gwadar Port as a Trade and Energy Corridor for Pakistan" under our guidance and supervision. His research work is original and his dissertation is worthy of presentation to the University of Peshawar for the award of DEGREE Of DOCTOR OF PHILOSOPHY IN INTERNATIONAL RELATIONS.

1. _____
Supervisor
Associate Prof. Dr. Syed Hussain Shaheed Soherwardi
Department of International Relations
University of Peshawar, Peshawar.

2. _____
External Examiner
Dr. Zafar Nawaz Jaspal,
Associate Prof. and Director Department of IR and Political Science
Quaid-e-Azam University

ABSTRACT

Development of Gwadar natural deep sea port, with all its associated projects, favorably influences the geo-strategic and geo-economic prospects of Pakistan. Geo-strategic location of Gwadar makes it an ideal hub port to capture transit and transshipment trade of Central Asia, Afghanistan, China and the Middle East and this regional accessibility with a viable and secured corridor would further expand regional economic cooperation. In addition to the efficient exploitation of exclusive economic zone, the port is also poised to provide strategic depth to the country's commercial and military vessels.

The aim of this research is to ascertain geo-strategic and geo-economic significance of Gwadar port as an indispensable factor to support national economic development; act as a vibrant commercial hub in the designed trade and energy corridor linking Pakistan with surrounding regions to generate immense economic dividends and give strategic depth to the Navy for surveillance activities to ensure maritime defence and safe flow of oil from the Persian Gulf to China via Gwadar-Kashgar Corridor.

The research methodology applied in this dissertation is of mixed methods (descriptive, historical, empirical, comparative and analytical) to collect both qualitative and quantitative data. The data is comprised of structured and semi-structured interviews followed by questionnaires and surveys to authenticate the factors influencing the port prospects as a trade and energy corridor while enhancing country's defense capability to seek strategic depth further to the southwest from its geographical vulnerable Karachi Naval base. Based on empirical findings, the research further identifies areas with recommendations that require immediate attention of policy makers to translate Gwadar port vision into a tangible reality by addressing issues related with its success.

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I dedicate this Ph D. thesis

to my Abba and Wife for

extending their emotional

support and love.

ABBREVIATIONS

ADB	Asian Development Bank
APTTA	Afghanistan-Pakistan Transit Trade Agreement
ASAT	Anti-Satellite
AWACS	Airborne Warning And Control System
BCF	Billion Cubic Feet
BOO	Built Operate Own
BOT	Built Operate Transfer
BP	British Petroleum
BRC	Bangkok Research Center
CAC	Central Asia-Center
CAREC	Central Asia Regional Economic Corporation
CAR	Central Asian Republic
CD	Crystal display
CDC	Combined Defense Complex
CEC	China Enterprise Confederation
CSTM	Container Terminal Management System
DPA	Dubai Port Authority
DSL	Digital Subscriber Line
DWT	Deadweight Tonnage

ECC	Executive Committee of the Cabinet
ECO	Economic Cooperation Organization
EEZ	Exclusive Economic Zone
EIA	Energy Information Administration
EOI	Expression of Interest
EPZ	Export Processing Zone
EU	European Union
FAO	Food and Agriculture Organization
FBR	Federal Board of Revenue
FDI	Foreign Direct Investment
FPCCI	Federation of Pakistan Chambers of Commerce and Industry
FTA	Free Trade Agreement
GCAP	Greater Central Asia Partnership
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GHQ	General Head Quarters
GNP	Gross National Product
GPA	Gwader Port Authority
GPS	Global Positioning Systems
GIE	Gwadar Industrial Estate
HPH	Hutchison Port Holding
ICMAP	Institute of Cost and Management Accountants of Pakistan
IEA	International Energy Agency
ISE	Islamabad Stock Exchange

IPI	Iran Pakistan India (Gas Pipeline)
IPIC	International Investment Petroleum Company
ISPR	Inter Services Public Relations
IT	Information Technology
IUCN	International Union for Conservation of Nature
KKH	Karakoram Highway
KPT	Karachi Port Trust
KSE	Karachi Stock Exchange
LoC	Line of Control
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MFF	Mangrove for the Future
MTDF	Medium Term Development Framework
MW	Mega Watts
MoU	Memorandum of Understanding
MIDAS	Maritime Industrial Development Areas
NCMPR	National Centre for Maritime Policy Research
NEPRA	National Electric Power Regulatory Authority
NESPAK	National Engineering Services Pakistan
NHA	National Highway Authority
NOAA	National Oceanic and Atmospheric Administration
NPEC	Non Proliferation Policy Education Center
OECD	Organization for Economic Cooperation and Development
OGJ	Oil and Gas Journal

OGP	Oil and Gas Pipeline
OPAL	Ostsee-Pipeline-Anbindungs-Leitung
OPEC	Organization of Petroleum Exporting Countries
PEO	Pakistan Energy Outlook
PEPCO	Pakistan Electric Power Company (Private) Limited
PIP	Petroleum Institute of Pakistan
PNSC	Pakistan National Shipping Corporation
POL	Pakistan Oilfields Limited
PQA	Port Qasim Authority
PRCS	Pakistan Red Crescent Society
PSA	Port of Singapore Authority
PTCL	Pakistan Telecommunication Limited
PTPS	Pakistan Transport Plan Study
RCCI	Rawalpindi Chamber of Commerce and Industry
SAARC	South Asian Association for Regional Cooperation
SBP	State Bank of Pakistan
SCADA	Supervisory Control and Data Acquisition
SCO	Shanghai Cooperation Organization
SIDZ	Special Industrial Development Zone
SLOC	Sea Lines of Communication
SOP	Standard Operating Procedure
SPS	Standards of Phytosanitary and Sanitary
SSBN	Ballistic Missiles Submarines, Nuclear-powered
TAPI	Turkmenistan-Afghanistan-Pakistan pipeline

TCF	Trillion Cubic Feet
TCM	Trillion Cubic Meters
TDAP	Trade Development Authority of Pakistan
TEU	Twenty-foot Equivalent Units
TOE	Tons of Oil Equivalent
TSS	Traffic Separation Scheme
UAE	United Arab Emirates
UAV	Unmanned Aerial Vehicles
UK	United Kingdom
ULCC	Ultra Large Crude Carrier
UNCTAD	United Nations Conference on Trade & Development
UNEP	United Nations Environmental Program
UNESCAP	United Nations Economic & Social Commission for Asia & Pacific
UNIDO	United Nations Industrial Development Organization
UR	Uruguay Rounds
USA	United State of America
USGS	US geology survey
VLCC	Very Large Crude Carrier
WBC	Walvis Bay Corridor
WCA	Wider Central Asia
WGDP	World Gross Domestic Product
WTO	World Trade Organization
WB	World Bank

ZTE Zhongxing Telecommunication Equipment, Corporation

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CHAPTER – 1

INTRODUCTION

1.1 Introduction

Today we live in an era of integrated global economy marked by free trade and free flow of capital, goods, technology and services which has neither barriers nor any boundary restriction. States' economic interactions thus operate beyond their frontiers in an interconnected and inter-dependent world. In this global economic system, states having strategic ports - gateways of commerce and centers of finance can benefit for greater long-term economic prospects and development. It is an acknowledged fact that maritime economies and societies are largely dependent on the sea and their progress and development go hand in hand.

The role of seaport with cost-effective sea transport has become more apparent and indispensable in the modern's expanded and diversified global trade system. Sea transport has contributed substantially in the human life since ancient times when mankind motivated with instinct to develop various devices starting with piloting boats physically and ending with the utilization of mechanical power (Al-Eraqi, Barros, Mustafa & Khader, 2007, p. 2). The facilities of sea transport including speed, safety, comfort, ability to handle large and heavy shipments at low cost has resulted in the expansion of sea and air traffic volumes of cargo and today more than 90 percent of global trade is transported by sea. The growth of transport and communication sector has helped country achieve sustainable economic growth and development (Haralambides, Verbeke, Musso & Benacchio, 2001). In fact, maritime transport has now become a crucial element of economic development of many regions in the world (Cullinane, Song & Gray, 2002).

Pakistan's Gwadar deep water port, situated on its southwestern coast, enhances the country's strategic importance in the entire region, stretching from the South, West and the Persian Gulf through the Indian Ocean. Its location at the mouth of the Persian Gulf places it near the strategic choke points of Gulf of Oman and Strait of Hormuz which makes it an ideal hub port, a port which accumulates several trades at one point for further distribution (Tangredi, 2002). Gwadar port is strategically located at the main shipping lane through which at least 60 percent of the world oil passes (Gwadar deep sea port, 2007, p. 5). In terms of economic benefits, it is the central point encircling parts of eastern India and curling around the Gulf States. More importantly, it is strategically surrounded by the world three important

regions: potentially populated South Asia, resource rich Central Asia and Oil rich Middle East. Gwadar port development in the long run will largely influence the geo-strategic environment of the surrounding regions and will have a far reaching positive impact on the economic development of Pakistan (Afzal, 2007, p. 7).

In the wake of bipolar world order and emergence of new geo-economic development in the region, Gwadar port, before the policy making circle in Pakistan, has great strategic value in terms of capturing transit and trans-shipment trade of the Central Asia, Afghanistan, Western China and even South Western India by using it as a commercial hub port due to its unique geographic location and natural depth. The geo-economic importance of Gwadar port is two-fold. First, in the prevailing deteriorating security scenario of the Middle East, the port appears as a stable and proximate point of access to the Persian Gulf ports. Being adjacent to the Strait of Hormuz at a distance of 250 miles where almost 17 million barrels of oil supplies flow on daily basis, Gwadar port can serve as a main shipping point in the region (Ahmer, 1995, pp. 364-369). Second, the port facilitates the landlocked countries of Central Asia, Afghanistan and even China’s western province with access to the Arabian Sea's warm waters (Aftab, 2002, p. A1). In addition, the port development would also facilitate the government to utilize unexploited exclusive economic zone which has so far been neglected. The area is considered potential in terms of fisheries of high quality and if properly managed, could enhance the production of crab and fish which would have ultimate positive impacts on the country’s exports and food-processing industries (Federal Bureau of Statistics, 2009).

Situated at the crossroads of energy routes, Pakistan's Gwadar port potential becomes high as all gas pipelines have to pass through Gwadar or its adjacent areas i.e., a north-south energy pipelines of Central Asia will route through the port to world markets and similarly west-east gas pipeline taking Qatari or Iranian energy towards South Asia and beyond would ultimately pass through the port of Gwadar (Narbaev, 2004, p. 1). Trade activities in the region are expected to be re-generated. A vast network of roads and rail links is being implemented in Pakistan along with Afghanistan and Central Asia with the assistance of Asian Development Bank (ADB) to reinvigorate old trade and economic ties existed during the times of 'Silk Road'. The transportation network includes a road from Gwadar to Saindak, Karachi, Ormara, Pasni, Turbat and Ratodero will not only connect the port with the entire country but it will also help link the port with the neighbouring countries of Iran, China and Afghanistan thereby connecting Central Asia (Haq, 2005). The completion of this communication infrastructure will promote trade in the regions as goods from Central Asia, Afghanistan and China to the countries of the Persian Gulf, Africa and beyond through Gwadar will be facilitated. The surrounding neighbouring countries will also be benefited with a short and viable route access to global market for their products which will further boost trade and economic co-operation in the regions. According to the Asian Development Bank's report, by providing transit facilities to the landlocked countries of Central Asia, Afghanistan and China's Xinjiang province, Pakistan will stand to benefit to earn substantial revenue as a transit fees (Central Asia Regional Economic cooperation-CAREC, 2009). By establishing Gwadar port as a centre of commercial activities in the

region due to its unique geographic position, the government will be able to attract considerable investment for the development of its most neglected and underdeveloped region of Balochistan. This investment will facilitate construction of roads, railways, industrial zones, hotels and residential areas which will have far-reaching impact on the economic development of Pakistan. The infrastructure development will also connect resource-rich countries of Central Asia to explore their vast untapped energy resources to achieve sustainable socio-economic development in the surrounding regions by affecting each participating country substantially to uplift its economic growth.

Since the inception of Pakistan, its economy could not produce desired economic growth and prosperity due to inclination of governments on foreign aid, inconsistency in the implementation of policies, unplanned ocean management system, inherent technological backwardness and inattention of the role played by maritime sector on country's national income.

Today, approximately 95 percent of a country's trade is done through the sea lane which is estimated to be 35 to 40 percent of its Gross Domestic Product (GDP) (Franel and Romer, 1999, pp. 379-81). Empirical finding shows that trade and growth of a country's economy go side by side and largely contribute on the income of a nation. In the twenty-first century, trade through the sea is considered one of the main components of globalization (Tangredi, 2002). However, Pakistan in the present economic trends is not fully conversant with this fact and has lacked behind to promote its economy on these lanes.

According to economic survey of Pakistan 2007-08, the country's GDP over the last few decades considerably increased and its reliance on seaborne trade equally augmented to about 95 percent (Ministry of Finance, 2008). Currently, Pakistan's commercial ports, Karachi and Bin Qasim in the Indian Ocean, are operational ports to cater largely to the domestic needs. It is forecasted that by 2015 Pakistan's sea-borne trade would be around 78 million tons on annual basis (Environment Division, 2008). According to the estimates, both Karachi and Bin Qasim ports are overburdened and reaching out of their cargo handling capacity and are deficient to cater future emerging demands.

The government of Pakistan is very hopeful of the project to achieve strategic depth from Indian Navy further to the southwest from its existing main Karachi naval base which suffered protracted economic and naval blockades at the hands of the Indian Navy during 1971 war (Masood, 2005). From a defence standpoint, establishment of naval base at the adjacent areas of Gwadar port would facilitate the Pakistan's Navy to easily operate against the enemy and during times of war or crisis, the strategic naval assets could even be moved farther to the southwest from the Indian's air and naval reach. Most importantly, in the event of war, Gwadar port's strategic depth to Pakistan's commercial and military vessels will find the location comparatively advantageous against Indian Navy to operate (Masood, 2005, p. 8).

1.2 STATEMENT OF THE PROBLEM

Keeping in view the geo-strategic and economic situation mentioned above in the region, Gwadar deep water port, therefore, appears to be an imperative research to examine the role it could play in terms of support to the national income, enhancement of naval base and surveillance activities and contribution as a trade and energy corridor for Pakistan to generate immense economic activities in the region. The research further includes ascertaining the identification of areas that require the immediate attention of the government to transform Gwadar port vision into a tangible reality by addressing issues related with its success.

1.3 SIGNIFICANCE OF THE STUDY

Pakistan, under its vision 2025 to achieve $150 billion export target, needs a strong maritime approach to support its economy on the one hand and transform the country into an upper-middle income nation to secure its interests in the surrounding region on the other (Kiani, 2014, p. A1). Gwadar deep water port of Pakistan, therefore, requires authentic and detailed analyses on the factors that could have both positive as well as negative impacts on the success of the project. Gwadar vision as a vibrant commercial corridor for Pakistan still largely depends upon the proper execution of its projects by the government. As the regions of Middle East, Persian Gulf, Western Asia, South Asia and Central Asia, surrounding the Gwadar port, have been passing through disturbances. In these circumstances, Gwadar emerges as a safe, shortest and energy hub port for all states of the world, if related issues and challenges are timely addressed. Absence of authentic work on the subject, a detailed critical and objective analysis of the research becomes a dire need of the hour. The research will not only provide a practical policy guideline to

the government of Pakistan, rather it will be a comprehensive and productive analytical research for students, researchers and scholars for referring it as a useful source.

1.4 OBJECTIVES OF THE STUDY

Main purpose of the research is to examine economic, strategic, trade and energy prospects of Gwadar deep sea port on the national income and analyze imminent impediments and challenges to the success of the port. Specific objectives are:

1.4.1 To examine strategic and economic underpinning of Gwadar deep water port as a trade and energy corridor for Pakistan.

1.4.2 To study comparatively Gwadar with other competing ports of Persian Gulf including Iran and ascertain its potential and weak aspects as a hub port.

1.4.3 To propose comprehensive economic, strategic, governance and policy recommendations to the government of Pakistan to notice sensitive issues involving the success of the project and handle the project affairs in a well attended and well thought-out manners.

1.5 RESEARCH QUESTIONS

Questions that need to be examined in the research are:

1.5.1 Would Gwadar port transform Pakistan into a vibrant hub of commercial activities for regional and extra-regional states?

1.5.2 How would Gwadar port stimulate economic development of Pakistan and the surrounding regions of Afghanistan, Central Asia and western China?

1.5.3 How would Gwadar port emerge in the region as a hub port competitor vis-à-vis Chabahar port of Iran, port of Oman and ports of Persian Gulf States?

1.5.4 Would the port of Gwadar provide Pakistan with strategic depth southwest from its Karachi naval base that has long been geographical vulnerable to blockade by the Indian Navy and how would China stand to benefit from the port's location to ensure its interests?

1.6 JUSTIFICATION OF THE STUDY

No comprehensive and coherent research has so far been conducted on the subject. The available material on the subject is either journalistic or critique, or a section in a book deals with one or another aspect of the project. Therefore, a broad and detail research on the subject is required to examine the economic as well as strategic underpinnings of the port to provide government and planners with tangible policy recommendations.

1.7 METHODOLOGY AND THEORETICAL PERSPECTIVE

The study employs descriptive, historical, empirical, comparative and analytical methods. Descriptive and historical methods are employed to chart existing export infrastructure and chronicles international maneuvering on the Central Asian chessboard. Empirical, comparative and analytical methods, on the other hand, are employed to analyze issues revolving around the subject i.e. Gwadar port, its prospects and impacts on Pakistan.

1.7.1 Procedure of the Study

The study involves a variety of research activities, ranging from review of the related literature to a comprehensive survey of the subject. A close and open-ended questionnaire will be formulated to collect data and structured and semi-structured interviews of scholars, social scientists, politicians, diplomats, policy makers, government authorities etc., will be conducted.

1.7.2 Evaluation and Interpretation of Data

The data both of quantitative and qualitative form will be collected. The data will primarily be concerned with the conditions that exist, opinions that are held, process that are going on and trends that are developing. The data will then be tabulated, organized, analyzed and interpreted accordingly.

1.7.3 Theories Applied

For this dissertation, several theories are deemed applicable. However, I have applied very few to underpin research design in establishing the understanding of

the phenomenon under investigation in the research. One of the applied theories is Trade and Economic Growth Theory to explore the impact of sea trade on the economic development of a country. The development of trade and economic growth theory has gone through two phases, first in 1960s and then in 1970s when economists investigated the neoclassical growth theory in the context of the Heckscher-Ohlin-Samuelson (HOS) trade model. The theory emphasizes that growth and trade are interlinked and dependent on each other to supplement investment.

Empirical finding shows that trade and growth of a country's economy go side by side and largely contribute on the income of a nation. In the twenty-first century, trade through the sea is considered one of the main components of globalization (Tangredi, 2002). Empirical studies reveal that there is a very positive and constructive relationship between trade and growth and seaborne trade has an important impact on development and growth of the national economy. (Frankel & Romer, 1999, p. 379). According to research of Bleaney and Greenaway (2001); Mendoza (1997); (2001) and Blattman (2003), development in terms of trade helps increase investment and thereby improves economic growth. Another research conducted by Kipici (1996), says that country's real income level rises when its trade improves which results in the trade balance. The exports of developing countries mainly comprise of commodity products which require more openness from states to world trade and a positive change in the states' trade leads to a positive change in their economies (Broda & Tille, 2003, p. 2). In similar research conducted by Srinivasan and Bhagwati (1999), they also support that trade creates and even sustain higher growth (p. 6).

Presently, Pakistan's trade is around 95 percent through the sea lane which is estimated to be 35 to 40 percent of its Gross Domestic Product (GDP) (Franel and Romer, 1999, pp. 379-81). However, the country in the present economic trends is not fully conversant with this fact and has lacked behind to promote its economy on these lanes. In this context, this dissertation's chapter 3 attempts to address the question surrounding the association between international trade and economic growth in theory and explains the importance of sea trade for the economic growth of a country while highlighting the prevailing global seaborne benefits and Pakistan's ignorance to utilize and rationalize its maritime approach for optimum utilization of its coastal resources. The chapter highlights that world seaborne trade has experienced a positive turnaround in demand in 2012 and ship industry has considerably brought itself to the worldwide standards of macroeconomic conditions (UNCTAD, 2011, p. 7). According to estimates as cited in Review of Transport 2010, world seaborne trade in 2010 and 2011 expanded and helped recover the loss of previous years (p. 8-9). The report suggests that by the end of 2011, world seaborne trade continued to be dominated by raw materials, with dry cargo and containerized trade which expanded by 8.4 percent. This growth has further stimulated investment and demand for raw materials. Size and volume of oil trade also increased by 4.2 percent in 2009 due to expanding energy demand in the developing economies of Asia. Developing economies have remained the main trading areas with 60 percent, developed economies maintain the share of total goods loading and unloading to 34 percent and transition economies account for 6 percent of goods loading and unloading (p. 7-9).

However, chapter 4 attempts to present Gwadar port as a hub port to capture transit and transshipment trade of the landlocked countries and regions of Central Asia, Xinjiang and Afghanistan. In the perspective of trade and economic growth theory, landlocked countries and regions, due to their geographic location, might be at a disadvantageous position and require multipronged strategy with coastal states including development of transport infrastructure to seek freedom of transit while encouraging transnational cooperation. Moreover, South Asia, Central Asia and China have comparative advantages as each state specializes in goods, therefore, all regions will achieve welfare gains and regional economic growth will also improve (Gandolfo, 1994 and Borkakaoti, 1998).

Second theory applied in this research is Growth Poles Theory. The growth poles theory advocates that economic development is not identical over an entire area or region rather grows around a specific pole. As key industry (Gwadar Port) around which linked industries and other infrastructure develop mainly through direct and indirect effects (Ullah, Berma & Shahadan, 2013, p. 3). This theory emphasizes on the importance of infrastructure and transportation as a main factor of accessibility that reinforces the significance of poles. Through the lenses of Growth Poles Theory, regional urban planning, infrastructure development and transport corridors give birth to the availability of various services and their development further contributes to the development of urbanization (Srivastava, 2011, p. 3). The expansion of key industry contributes largely in the growth and development of investment, expansion of output, generation of investment, induction of latest technology, and creation of employment while encouraging industry clusters (Szajnowska-Wysocka, Kulesza. 2007).

The term trade corridor/transport corridor in the regional cooperation context promotes regional cooperation and strengthens regional integration. This is particularly true when we associate corridor development approach with regional cooperation. The corridor development approach can be explained as using transport corridors to provide a backbone for regional cooperation projects and activities, bringing them together along the transport corridors (Srivastava, 2011, p. 4). It becomes probable for the development of surrounding regions, including through catalyzing other investment from within and outside the region. In this context, this dissertation's chapters 5, 6 and 7 mainly deal with the concept of corridor which will be analyzed in the perspective of regional cooperation as these corridors will facilitate regional countries, help develop trade and transport in the regions to bring dividends to all the stakeholders. By analyzing such links, regional complementary trade advantages have also been highlighted. For remote, underdeveloped regions like Balochistan, Xinjiang and landlocked countries of Central Asia, the corridor development becomes a toolkit of the regional cooperation to maximizing the impact of typically limited resources available for regions while engaging in the trade of comparative advantage.

Last theory applied in this research is Game Theory. According to economists, Game theory is the science of strategy in which each player attempts to take certain logically actions to secure the best outcomes and benefits in a wide array of strategies. The games all demonstrate the common concept of interdependence. Turocy and Stengel (2001) explain two main branches of game theory: Cooperative and Non-cooperative. Cooperative game gives the concept of positive sum (mutual gain) while non-cooperative game is called zero-sum game in which the interests of

the players conflict and result in total gain of one player and loss of other (pp. 4-6). Game theory developed by John Von Neumann emphasized on games of pure conflict (Zero-sum games) while other games were considered in the environment of cooperation and left the game up to the players to select actions jointly. Recent research has brought about new dimensions in the games that are neither zero sum nor cooperative in the real sense. In fact, in these games players choose their strategies separately but at the same time try to evolve competition and cooperation to achieve their goals (Fudenberg, Drew, Tirole and Jean, 1991). The gist of the game is the interdependence of player strategies. The game theory can be categorized into two distinct types of strategic interdependence namely sequential and simultaneous. In the former game, the players move in sequence and each aware of the others' strategies while in the later game the players act at the same time and each is ignorant of the others moves.

In the game theory, economic theory has three main branches: decision theory, general equilibrium theory and mechanism design theory. All are interlinked with game theory and deal with issues include tax policy, trade policy, role of international trade, international trade agreements, maintaining incentives to attract investment, behavior and incentives of governments and decision analysis etc.

In the cooperative game theory perspective, landlocked Central Asian countries, Afghanistan and Xinjiang region of China can be analyzed to discuss the role of cooperation in geo-politics considering that a state's ultimate goal of cooperation is to obtain optimum utilization of resources to gain comparative advantage. To achieve economic development and strategic goals as envisaged and discussed in

the chapter 8 of the research, politics and cooperation, economics and competition can be integrated. Pakistan and China has to make comprehensive use of political as well as military power to ensure fair economical cooperation and safeguard national economic interests at the same time their proper utilization of economic resources will also ensure and strengthen political and military power. In the Cooperative Game Theory perspective, all regional players attain mutual benefits. For example Central Asian states experienced weaker growth than Pakistan (Coastal state). Their geographical restrictions are the primary reason that deprived them to benefit from trade preferences due to cross border high transaction cost, expenditure of loading and unloading, cost of transportation and storage facility which further made their products expensive. However, after the construction of trade and energy corridors, these states would be compensated by Pakistan, Afghanistan and even India for the sale of their abundant energy resources while Pakistan on the other hand would earn revenue from Central Asian states and Afghanistan for the transit and transshipment facility. Afghanistan also stands beneficial in this situation as the country will earn a huge sum of amount from Central Asia as well as from Pakistan for the provision of transit facility for gas pipelines. Likewise, China also remains beneficial in the game as the economic corridor will provide a shortest and most economical route to Chinese to secure their long term interests in the Persian Gulf and surrounding regions which will help it save an immense amount of money from trade transit cost. A recent report suggests that savings on trade transit cost for China will pay off its investment cost in Pakistan within the first two years once the corridor is operational (Zubi, 2015). Moreover, from strategic and military perspective,

Gwadar port will help both China and Pakistan to evolve a strategy to counter threat perceptions stems from Indo-US nexus or Indo-Israel nexus.

1.8 RESEARCH PLAN AND ORGANIZATION OF THE STUDY

The research will be conducted over a period of 10 to 14 months. Keeping in view the aim of the research, it has been divided into 9 chapters which are briefly presented as follow:

Chapter 1: Introduction

The chapter touches upon the research background and related subject literature review of this dissertation. The research aim and objectives are then explained which are followed by key research questions to be addressed in the study. The research methodology is briefly explained to achieve the research aim and objectives. In the end, research plan and organization of the study is given.

Chapter 2: Gwadar port – Overview and Historical Background

An attempt is made to examine the centrality of Gwadar port to the economic perspective of Pakistan. The chapter reviews the undergoing Gwadar project and its location, evolution, structure, design, capacity of the Port, etc. It presents basis for the construction of the port to safeguard economic, security and geo-political compulsions of Pakistan. Under the comparative study, the advantages of Gwadar port are examined in the light of regional ports' potential and capacity and issues and dilemmas currently they are confronted with. A brief review of the future prospects of the Gwadar port to become a regional commercial hub is also discussed.

Chapter 3: Role of Seaborne Trade in Economic Development of a Country

The chapter evaluates the economic potential of a seaport. It highlights the importance of Gwadar Port in context with the present deteriorating conditions of Pakistan's economy. An evaluation of growing global needs of natural resources, trade and other commercial activities are presented to justify the establishment of Gwadar port. Furthermore, increase in the flow of domestic trade also demands for an additional port, is explained.

Chapter 4: Global Trade Expansion and Economic Prospects of Gwadar Port

The chapter attempts to establish a link between economic growth and international trade. A detailed discussion and analysis are made to authenticate arguments that seaport has far reaching impacts on every sector of economy and the port helps

develop economic growth in the country. In the chapter, each sector of economy is explained with facts and figures to substantiate the arguments that Gwadar port is indispensable for promotion and development of industrial and economic growth.

Chapter 5: Gwadar port: A Regional Trade Corridor

The chapter evaluates the potential of Gwadar port to become a hub port for South Asia, Central Asia, South East Asia and other surrounding regions. National as well as regional ongoing infrastructure projects and initiatives are discussed to visualize the potential of Gwadar port as a commercial hub to converge and diverge trade of the surrounding regions. A brief analysis on geo-strategic location of Gwadar port is made to reflect the port as a viable trade corridor for Central Asia over other existing routes. The chapter also attempts to highlight trade potential of South Asia, Central Asia, China and Afghanistan by analyzing complimentary trade advantages of each region.

Chapter 6: Gwadar port: A viable Energy Corridor

The chapter ascertains the importance of energy in the contemporary world by explaining its role in the economic development of a country. It also highlights hydrocarbons potential of Central Asia and Iran along with proposed and existing energy pipelines. A detailed account on the existing energy requirements of the national and regional countries is drawn to project future prospects of diversification of Central Asia's energy resources to benefit Pakistan, India, Afghanistan and China for further economic well-being of the entire regional and

extra-regional countries. Brief analyses are made to discuss how energy pipelines offer other related benefits to the pipeline associated countries.

Chapter 7: Geo-Economic Prospects of Gwadar-Karakoram-Kashgar Corridor

The chapter attempts to signify importance of the corridor between China and Pakistan to expand their existing trade and economic activities. Detailed analyses are made to explain potential benefits of the Gwadar-Karakoram-Kashgar Corridor for both the countries with different perspective and canvas. In addition to bilateral trade expansion, the corridor is poised to act as a shortest energy route to China while benefiting Pakistan to earn substantial revenue from trans-shipment trade facility. The corridor has geo-strategic imperative for both Pakistan and China in the long run, is also briefly explained.

Chapter 8: Gwadar Port - Serving Strategic Interests of Pakistan

The chapter is designed to explain geo-strategic interests of Pakistan in the Indian Ocean. Analysis on Pakistan's geo-graphic vulnerability, adversarial relations with India along with its expansionist aims and expanding maritime ambitions are explained in detail to substantiate the importance of Gwadar port as a strategic listening post for Pakistan and China to monitor Indian maneuvers in the Arabian Sea in particular and Indian Ocean in general. Moreover, in the development of Indo-Israel and Indo-US military nexus, China's involvement as a military partner with Pakistan is also discussed to counter Indo-US-Israel Nexus. A detail analysis is also made whether Gwadar port benefits Pakistan's military with strategic depth vis-à-vis India to safeguard its geo-economic and geo-strategic interests.

Chapter 9: Conclusion and Recommendations

The concluding chapter provides a summary in the light of key research findings and highlights main impediments and challenges ranging from political, geo-strategic, security and economic facing the government of Pakistan in the construction of Gwadar port. The chapter is then summarized with major findings and draws conclusion with policy recommendations to government for turning the vision of Gwadar port into a reality. It also underlines the research implication and contributions followed by research limitations and recommends future research scope.

CHAPTER - 2

GWADAR PORT – OVERVIEW AND HISTORICAL BACKGROUND

2.1 Introduction

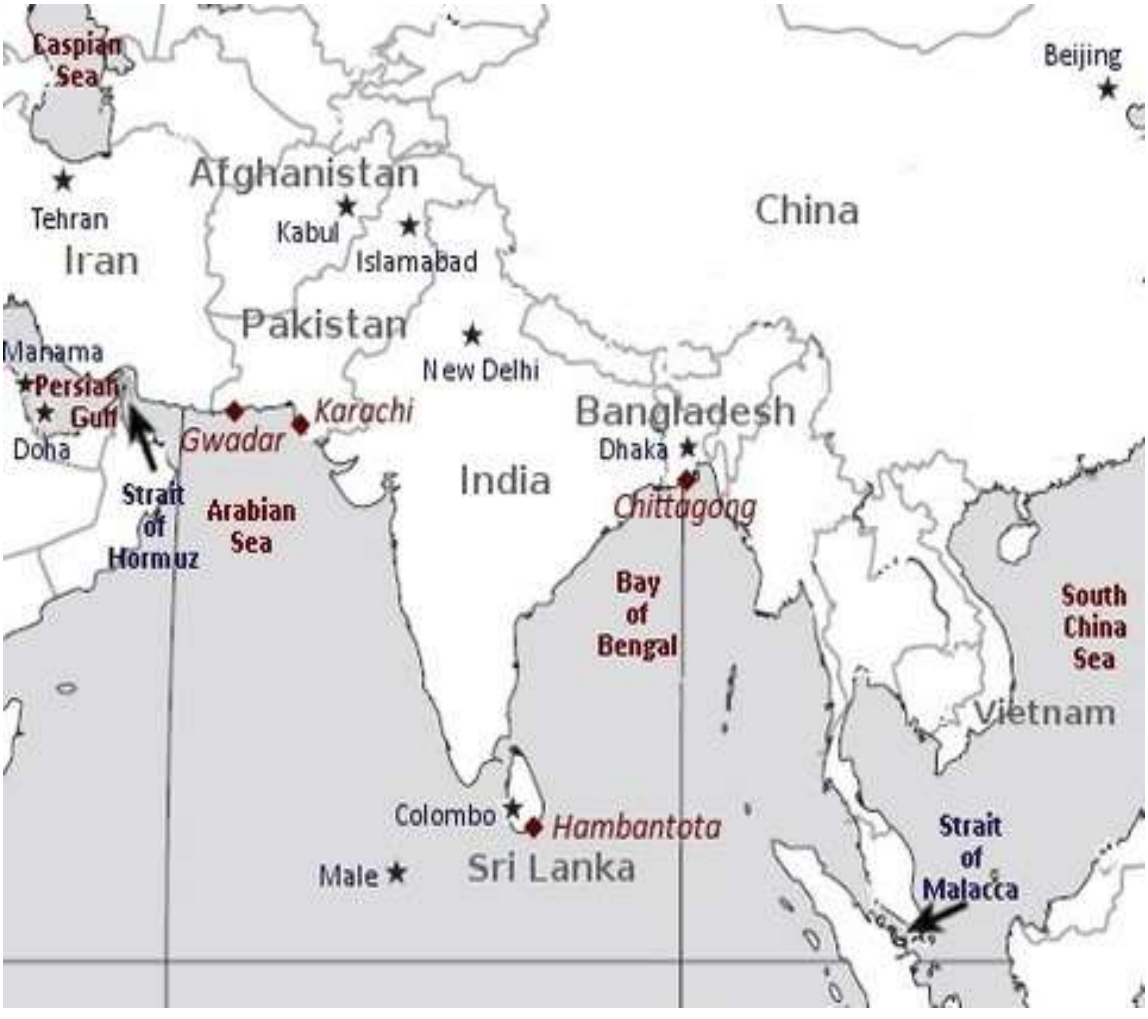
The word Gwadar is a derivative of two Balochi words ‘gwa’ and 'dar’ meaning wind and gate subsequently. Literally it means gateway of winds (Mehdi et al., 2009, p. 8). Gwadar district is the largest coastline of the country located between 25 – 01’ and 25 – 45’ north latitude and from 61 – 37’ to 65 – 15’ east longitude. The district is surrounded by Kech and Awaran on north, Lasbela on east, Arabian Sea on south and Iran on west. At the time of partition of sub-continent, the area of Gwadar comprising Peshukan, Sur Bander Phuleri and Nigore, was administered by the government of Oman with help of an agent and 30 askaris, policemen (Government of Balochistan & International Union for Conservation of Nature

[IUCN Pakistan], 2007, p. 5). The Gwadar area came under many renowned rulers, yet none showed any seriousness to develop the social and infrastructural fabric of the area. The worst of all were the Portuguese, who not only burgled the land but also set the twin cities of Gwadar and Pasni into blaze in 1581 (Baluch, 2011, para. 1). The inconsistency of governance resulted in the backwardness and negligence of the area. Establishment of first primary school in Gwadar in 1950 is the manifestation of non-existent of social sector services and physical infrastructure (Government of Balochistan and IUCN Pakistan, 2007, p. 05).

2.1.1 Topography of Gwadar

Gwadar, a long sea-board, is located on the south of the Makran Coast Range. Gwadar coastline is 600 kilometers long which constitutes 78 percent of provincial coastline and 55 percent of the country as shown in map 2.1. In some places coastline is 300 meters above sea level with few mountain peaks. The scenic view of the Gwadar coastline becomes fabulous with the frequent occurrence of peninsulas and promontories of cliffs of white clay covered with coarse limestone. The low intermediate coast is surrounded by low and high sand hills with bushes of grass and mangrove swamps. In some places dry rivers channels convert into salt water creeks. Apart from few good harbours, the district is endowed with major operating ports like Jiwani, Gwadar, Pasni and Ormara. Astola, an uninhabited island, is also situated about 20 kilometers away from the Gwadar coast which has immense prospects for tourism.

Map 2.1: Map indicating location of Gwadar



Source: (Perera, 2013, p. A1).

2.1.2 Area of Gwadar

According to a survey undertaken by Situation Analysis Study in 2005, Gwadar area is spread to 15,216 sq km whereas government's Censuses undertook between 1981 - 1998 reveals that Gwadar District occupies about 12,637 sq km. In the 1998 Censuses, there is no mention of any boundaries. This factor could have severe implications as financial resources are being distributed on the old available data.

2.1.3 Climate of Gwadar

Gwadar coast lies in a suitable climate zone for harboring. With dry and hot climate, Gwadar coast enjoys warm summer and mild winter temperature zone. The consistency of temperature is an exceptional feature of Gwadar coast. The oceanic factor keeps the temperature bearable during summer as well as during winter. During summer (May-July) temperatures goes up to maximum 35 C and during winter (December-February) the area experiences minimum 13 C temperatures. Overall, the coastal area of Gwadar has a pleasant weather. The area falls in arid climatic zone and most of rainfall occurs from December to February with 20 mm average whereas in the month of August occasional rainfall also occurs. The weather of Gwadar District and littoral states of Middle East is more or less identical.

2.1.4 Natural Features of Gwadar Port

The natural characteristic of Gwadar is of great importance. On account of global warming and increased trends of erosion of shores, many ports including few from Persian Gulf which are on sandy coasts are in jeopardy. Gwadar port, however, is a rocky shore and safe from any such erosion and does not require any preemptive measures to keep it safe from tides and waves. Its mountains and rocks are itself a shield and natural defence for it (Yousaf, 2012, p. 22).

2.2 Historical Background

To understand Gwadar port's development, it is pertinent to examine historical context within which it was developed. The tract of Makran's history is dated back to the period of Prophet Dawood (Sherazi, 2006, p. 3). The geo-strategic coastline

of the area appealed many rulers to maintain their suzerainty over the area. Few of them found the land incidentally while the rest intentionally conquered it to advance their strategic interests. King Kaus, Afrasiab, Kaikhusrau, Lehrasp, Gueshtasp, Bahman, Huma, Darab and Chandragupta are among the rulers who exercised their authority for a brief period of time. Sherazi (2006) further reveals in his research that the Alexander's reign is also found in the Makran's history who incidentally sailed along the coastline of Makran on his way from India to Mecedonia (p.3). Then for few centuries, Makran's history is lost in darkness till the 1581 when Portuguese proclaimed their authority over the area. None of the rulers could stay long due to their apathy to devise any long term strategy and development plan in the area (Mir, 2010).

It was during Buledais and Gichkis, local rulers, who rose to power and with organized management they ruled the area for more than a century. These rulers had a strong bond with the rulers of Maskat. Being anti-Zikri-Muslim by faith, Mir Nasir Khan I launched several expeditions to eliminate Gichkis who belonged to zikri-sect. These expeditions divided the revenues of the Makran between the Khan and Gichkis. In 1783, Gwadar and its surrounding areas went under the control of Muscat's ruler (Onley, 2009, p. 4). In 1783 King Saiad Said gained rule in Maskat and his brother King Taimur Sultan fled to Makran where he was granted Gwadar area by Khan of Kalat (Sabir, 2014). Having stayed for a brief period of time, King Taimur Sultan succeeded in seizing the Sultanate of Muscat in 1797. After the demise of King Taimur Sultan, his sons continued to proclaim the right of sovereignty over Gwadar (Mir, 2010).

The British government took notice of the geo-strategic importance of Gwadar in 1861 when Major Goldsmith visited the area (Sherazi, 2006, p. 3). Shortly afterwards, the British government appointed an assistant political agent in Gwadar in 1863 and Pasni and Gwadar ports were also established for the steamers of the British India Steam Navigation Company (District of Gwadar, 2010, p. 128) . The communication networks like telegraphic-link from Gwadar to Karachi, Telegraph and post offices at Gwadar and Pasni in 1894 and 1903 subsequently were developed by the British government to advance their coastal and other trade interests in the area (p. 128).

At the time of partition of subcontinent, all surrounding states, except Gwadar, joined the Balochistan States Union. The geo-strategic importance of Gwadar was highlighted by Worth Condrick, a US surveyor, who was deputed to conduct a survey on the coastline of Gwadar (Gwadar port: history making milestones, 2008). In his survey, Worth declared Gwadar site most suitable for construction of a sea port. As a consequent, in September 1958, Gwadar was sold by Sultanate of Oman to Pakistan in return for 8.4 million dollars and in some places in return for £3 million and even some say half that amount nearly after two centuries (Haider, 2009, para.1). The dissolution of one unit system in 1970 resulted in the creation of Balochistan as one of four provinces of Pakistan and Makran became its one of 8 districts. In 1977, Gwadar eventually gained the status of district. During the premiership of late Zulfiqar Ali Bhutto, Gwadar port project was initially conceived but shortly after his demise the project was put in the cold storage. The project was

reinvigorated by both the governments of late Benazir Bhutto and Nawaz Sharif. In 1993, a feasibility survey for the port was conducted by Gifford, Partners and Technecon of Southampton, UK. After incorporating Gwadar port project in the 8th Five Years Plan of Pakistan in 1994, the port project was then endorsed and recommended by the Executive Committee of the Cabinet (ECC) and in December 1995, the Karachi Port Trust was directed by the government to finance Gwadar project. In 1996, 43 major companies participated to get Expression of Interest (EOI) for the constructions of Phase I of the project but the project could not be started due to shortage of funds. In the second tenure of Premiership of Mian Muhammad Nawaz Sharif, the government formed a task force under the chairmanship of Captain Haleem Siddiqui to finalize feasibility report of the port project and Gwadar site was recommended by the Task force for the port. However, the construction of the port got a setback when Shangai economic sanctions were imposed on Pakistan. In 1999, China showed interests in the constructions of Gwadar port which took almost three years to be materialized. The dream of Gwadar project was eventually brought into a reality by both the governments on 22 March 2002, when PRC Vice Premier Wu Bang Guo and President Gen Pervaiz Muharraf inaugurated the construction of Phase I of the Gwadar port at a cost of US $ 248 million (with assistance of US $ 198 million by China and 50 million US $ by Pakistan) which was revised to US $ 298 million in 2005 (Gwadar port: history making milestones, 2008).

2.3 Why is Gwadar port required?

2.3.1 Domestic Ports Capacity and Demand

Pakistan enjoys around 1046 km long coastline on Arabian Sea stretching from Indian border to the Persian Gulf (Hassan, 2005, p. 58). At the time of creation of Pakistan, Karachi Port was functional to cater entire sea borne trade of the country as well as rendered transit trade facility to its western landlocked neighbour, Afghanistan (p. 58). At present, Pakistan freight trade is being operated through its operational ports of Karachi and Bin Qasim. Both the ports share same hinterland and transportation system. Karachi port is the oldest port in Pakistan which was functional even before the creation of Pakistan. Today, Karachi Port is responsible to cater 68 percent of the country's seaborne trade and 66 percent container trade of Pakistan whereas the port Qasim handles 32 percent of the country's seaborne Trade (Malik, 2012, p. 58). The port of Qasim was constructed in 1980s to shift load and burden from the main port of Karachi. It was also established to handle maritime industrial cargo. Today, due to heavy congestion at both the ports, Qasim Port is also handling container and wheat apart from industrial cargoes handling.

In modern times, containerization has progressed in international shipping. This global tendency has equal impacts on Pakistan. Over the years, there has been a considerable expansion in freight trade and in this context a dire need for a third port is largely felt to fulfill the emerging requirements. Container handling volume at Karachi ports have rapidly expanded from 505,000 Twenty-foot Equivalent Units (TEUs) in 1998 to 824,000 TEUS in 2004 and at Qasim container handling capacity has reached from 133,000 TEUs in 1998 to 421,000 TEUs in 2004. The estimated rise in sea borne trade of these twin ports by the end of 2015 is around 91 million tons (Malik, 2012, p. 58). Presently, both the ports are unable to handle

container with present terminal. It has been suggested that if additional container terminals are not made available to the ports authorities, handling capacity would be inadequate to meet the future demand as set for year 2025. Moreover, Karachi, being a cosmopolitan city and hub of economic activities, is spread over 3,530 sq km with an estimated population of 18 million (Saqib, 2013). At the time of partition of subcontinent, the city covered around 8.3 sq km with 0.43 million population. Today, with phenomenal physical and demographic changes and with migration influx, Karachi is considered one of the world's ten largest cities (Qureshi, 2010, p. 309). This factor is also one of the main impediments to target large amount of freight trade in future.

The Qasim Port on the other hand is not an advantageous location for cargoes. Though the port has sufficient space for expansion, yet its more than 40 km distance from the open sea and up-stream location gives a long turnaround time to cargo vessels. This results heavy cost-disadvantages for the cargoes of different destinations.

As per findings of the Medium Term Development Framework (MTDF), a policy measure programme of the government of Pakistan drafted by Ministry of Finance, both Karachi and Qasim ports handle over 95 percent seaborne trade of the country and are considered as lifeline of the Pakistan economy. In case of any blockade either imposed by enemy or caused by vessel collision, all physical distribution system of Pakistan comes to standstill and in this kind of situation, the entire country could face acute economic crisis (Senator Ghori, personal communication,

August 29, 2012). To avoid such kind of risk or devastation, establishment of Gwadar port emerges unavoidable development.

Before the selection of site for Gwadar port, both Karachi and Qasim ports were also analyzed and evaluated for expansion to cater emerging demands of freight. However, these ports' distance from the major shipping routes, limitations of draft and long turnaround time were the main factors for selection of Gwadar location 3rd commercial port of Pakistan (Gwadar port Authority, 2012). Keeping in view the above mentioned scenario, Gwadar port's construction becomes inevitable to cater future freight trade for national economic development.

2.3.2 Regional Economic Integration

In the era of globalization, trade has become a pivotal factor for economic development and integration of the regions. Under the European Commission report, the success story of South East Asian region, especially countries like Taiwan and South Korea, shows that pursuance of policies and their execution in right direction could develop economic integration and growth in the regions (Trade and regional integration, 2012, p. A.1).

Since 1980s, South Asia has experienced a considerable progress in terms of growth in gross domestic product. The region has acquired around 7.2 GDP growth rate and productivity of labour and capital has been greater than even the East Asian economies of Thailand, Philippines, Malaysia and Indonesia. Yet, due to lack of proper transport communication infrastructure like sufficient ports, network of road and railway, the regions like South Asia, Central Asia and West Asia are unable to

get desired results in production, consumption and trade. Absence of modern ports and transportation, intra-regional trade would never be fully utilized and trade between countries would always suffer due to high transportation charges, delay delivery of products and even occurrence of eventualities like collision of vessels etc. In Central Asian region, seven countries are landlocked which are dependent on Pakistan for trans-shipment facility and Gwadar port can provide them an alternate route (Jehanzeb, 2007, p. 90). At present, developed countries normally pursue their economic activities through their port authorities, economic and commerce ministries/divisions with mutual understandings and standardized trade policies (Yousaf, 2012, p. 20).

2.3.3. Economic Compulsions

Hassan (2005) emphasizes the importance of Gwadar port for economic prosperity of the country as the seaborne trade is considerably contributing in the national income and economic prosperity of the developed countries (p.2). Around 80-90 percent global trade (both in weight and volume) is seaborne. The Pakistan economy is largely dependent on seaborne trade which is estimated to 97 percent of the county's total trade. Reporting to the daily Pakistan Today, Managing Director Karachi Stock Exchange (KSE) reveals that Pakistan's GDP in 2015 would likely to be between $ 350 and $ 375 billion. The ports, being economically viable, are the main source of trading. According to estimates, as explained in the research, in 2015 Pakistan's seaborne trade forecast would exceed to 78 million tons annually and both the ports would not be efficient to handle the increased capacity of cargo (KSE contradicts official figures, 2012).

As a maritime nation, Pakistan's maritime strategy has never been so effective to take advantage of the sea and its abundant resources for the economic development of the country (Nawaz, 2004). Poor management, decades' negligence and continental mindset of policy makers could not contribute in the development of this sector. As a result, shipping industries are in disorder, exploitation of offshore resources is fully untapped, merchant marine is declining and benefits of natural resources are confined to coastal fisheries. Around 95 percent (Some other resources quoted 97 percent) of country's international trade is seaborne and heavily contributes in its Gross Domestic Products (GDP) (Nawaz, 2004, p. 34). Despite such large reliance on seaborne trade, the government dependence on two ports at Karachi and with a least prioritized and small Navy to advance its maritime interests would always be vulnerable to its eastern hostile neighbor.

Since its inception, Pakistan has not been able to achieve a sustained economic growth. Consequently, the retarded economy paved the way for unmanageable poverty, deteriorating law and order situation, growing resentment among people and unemployment. All these factors further translated a pressing group of people into extremism and terrorism. Everywhere in the globe, tax collection is the main source of national income and port, in this context, largely contributes to the national economy by generating taxes through transport duties, import duties, registration fees and further strengthen bond with transport system in the country. Moreover, it also generates revenues from shipping corporations and provides employment to thousands worker and technical staff.

In today's world, a country whose economy is overwhelmingly dependent on seaborne trade should have a maritime strategy to exploit this potential sector to overcome its economic issues. However, establishment of Gwadar port reflects a strategic shift in thinking of policy making circle in the country to diversify economic base and to exploit the vast expanse of the Exclusive Economic Zone (EEZ). The port would provide infrastructural development in coastal areas and would pave the way for socio-economic development in the region. Gwadar area is known for abandoned offshore natural energy. Any major discovery in this field could entirely diversify the economic outlook of the country (Waqar Ali Khan, personal communication, January 5, 2013). With announcement of investment friendly policies, many reputable companies are interested to invest in the exploration of energy resources. It is obvious that Gwadar port has a prospective to emerge as a hub of economic activities by providing a trade and energy corridor to the surrounding states of Central Asian States, Afghanistan and China.

2.3.4. National Security Compulsions

National security of a country is safeguarded if the country has many naval bases for forces to operate during peacetime and war. Ports play a significant contribution in the national security of a country by establishing operative naval bases within its vicinity (Talat Masood, personal communication, January 15, 2013). On the national security, Velo says:

> The possession of large numbers of bases offers significant advantages for deployment, maneuver and redeployment of one's own fleet forces

> and the use of the most suitable bases for deployment and redeployment. It is invariably a bad thing to rely on the use of a single major base in wartime, because then one's own forces use the same line of operation for both attack and retreat. This in turns resolves the enemy's problem in the timely monitoring of the movements of one's own and friendly forces. The enemy can with relative ease operate against a fleet that uses a single major naval base in a given area of operations. (Milan, 1999, p. 61).

Since its inception, Pakistan has passed through very critical times. It waged three wars against its eastern neighbor, India and till now is living in an atmosphere of animosity with it. From the day one, threat perception has been emanated from India. Despite having nuclear arsenal and exaggerated claims of both the armed forces for having minimum credible nuclear deterrence, possibility of outbreak of third war between these two states cannot be ruled out. As explained in his research thesis, Rab Nawaz explained that in this bitter environment, maritime strategy of Pakistan could not be served with the existing oceanic infrastructure of the country and proceeding two factors exemplify the significance of Gwadar port (2004, pp. 4-5).

Firstly, the absence of national merchant marine, Pakistan is largely dependent on foreign carriers for its international trade and during war these carriers could refuse function in the war zone thereby stagnating the entire seaborne trade of the country. It has also been observed that during a war or in a heightened tension, these foreign ships sometimes imposed high insurance charges, unacceptable to country like

Pakistan. As this has been experienced by Pakistan during US war against Afghanistan in 2001 when these foreign ships increased their insurance charges.

Secondly, Navy of the country is responsible to safeguard maritime interests of the country. Pakistan's Naval Forces have never been strengthened vis-à-vis Indian Navy. Decades' negligence and mismanagement tilted conventional balance in favour of the Indian naval forces on proportionate difference of 5:1. Indian Navy has sophisticated combat facility including combat vessels, air assets and manpower.

Government of Pakistan seriously realized to develop an alternate port shortly after the Indian imposition of naval blockade in 1971 war (Aziz, 2012). The vulnerability of two domestic ports clearly exposed when Karachi Port complex came under Indian Missile attack. As Pakistan's 95 percent trade is routed through sea and close proximity of these ports to the Indian forces would always be at the discretion of our eastern enemy. Our overwhelming reliance on seaborne trade with these two ports would certainly complicate our strategic and security interests. During 1971 war, Pakistan had one operational naval base at Karachi and after Indian naval blockade, establishment of another naval base at Ormara coastline, 120 nautical miles away from Karachi; in 1990s was an attempt to avert the similar situation in future as faced by the Pakistan Navy in 1970s.

The development of Gwadar port with naval base facility has two strategic and security advantages to the country. First, it would facilitate naval forces to operate

from different locations during war and at the same time would be away from the Indian attack. Second, it would lessen burden on the other two ports of Pakistan.

2.3.5 Coastal Defence Compulsion

Although meaningful peace talks are underway between India and Pakistan yet their decades' unresolved issues and geo-political interests in the region continue to make their relations more volatile. The skeptical relationship between India and Pakistan can easily be understood in the recent launch of Agni-5 nuclear capable intermediate range ballistic missile which was reciprocally responded by Pakistan with its Hatf-4 Shaheen-1 capable intermediate range ballistic missile (Naqvi, 2012). This shows that neither side is able to evoke a durable peace in the region until their decades' long disputes are resolved. India's attempt to modernize its Navy and secure all sea lines in the India Ocean could pose a grave threat to Pakistan's maritime and coastal interests. On the Indian expansion programmes, Pakistan's Navy Chief Asif Sandila replied to a defence news reporter that Pakistan in response to the Indian naval buildup and expansion ambitions is determined to take necessary measures to maintain strategic balance in the region (Ranasinghe, 2012, para. 02).

If we compare Pakistan's navy with that of Indian, we would find that the later has considerably strengthened its naval forces. In recent times, India has enlarged its naval capabilities with induction of aircraft carriers, surveillance and radars, network centric and electronic warfare equipments, fast attack boats, frigates, reconnaissance aircrafts and UAVs. The technological advantages and conduct of

regular exercises at sea, Indian Navy is a serious threat to Pakistan's maritime interests in the region (Khattak, 2011). Debating on Pakistan's Navy capability, Malik Ayez Hussain Tiwana, a defence analyst-cum-columnist, stated that Pakistan's defence and naval forces located at strategically important sea port should be equipped with all necessary technological and modern warfare equipments to operate against the Indian Navy on the eastern seaboard. For the purpose, he highlighted that Gwadar coast would easily strengthen Pakistan's Navy positioning to break blockade away imposed by Indian Navy during War.

Keeping in view the contribution of maritime trade, exceeding to 97 percent of total trade of Pakistan, we can't leave our Navy in a situation where our enemy is modernizing and expanding its naval forces equipped with nuclear arsenal. In this situation, we need to strengthen our coastal defence with modernized Navy to mitigate any threat emanating from our eastern border that could penetrate into our sea lines of communication and could pose dire consequences for our own existence.

Pakistan's continued economic constraints do not allow our policy makers to allocate a substantial amount of budget for modernization of our Navy. However, Pakistan could manage to improvise its naval strategy with close collaboration with China. China has already shown interests to provide necessary technical and financial support to pursue a joint research and acquisition programme. In response to Chinese offer, Pakistan's former Chief of naval staff, Admiral Noman Bashir, expressed Pakistan's willingness to offer Gwadar port, logistics and maintenance

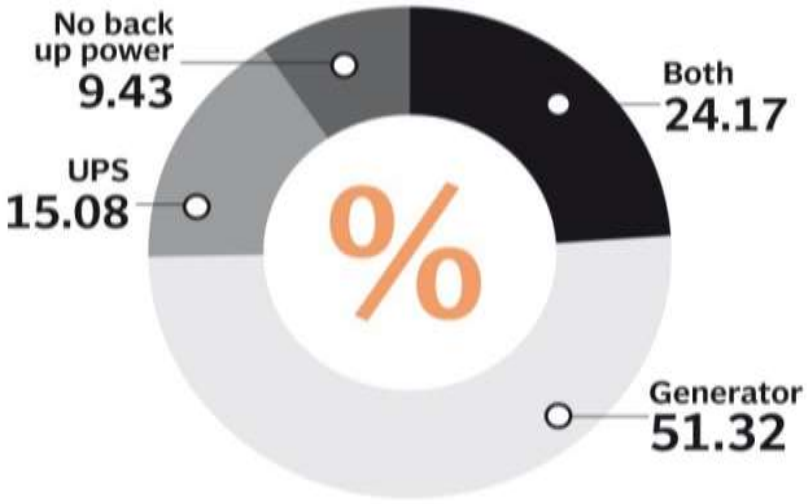
facilities for Chinese Navy. In this context, Pakistan's Navy has devised plans to develop two main shipbuilding and maintenance yards at Gwadar and Port Bin Qasim in that order (Ranasinghe, 2012, para. 08).

2.3.6 Oil Factor and Need for an Alternate Port

Wasif Khan in his article, Pakistan's looming crisis: increasing population, dwindling resources (2012) highlights that the country is expanded between 185-200 million populations. On the basis of current fertility rates, he assumes that Pakistan's population will increase to 261 million by 2030 and nearly 380 million by 2050. In an interview with Kashif Mateen Ansari, CEO Sachal Energy Development, he highlighted that with the highest population growth rate, the country's oil requirements have multiplied. In fact, whether as a nation or government, we are largely dependent on Pakistan Oilfields Limited (POL) products in many ways. Being a nation, we need POL products for many domestic uses and as a government, POL further gets compounded to run generators, industries, workplaces and even fulfills the requirements of our defence, he added (Personal communication, June 27, 2013). For impregnable defence and especially during war times, uninterrupted supply of oil to armed forces is ensured for effective fighting. National oil reserves are based on the constant supply of POL from abroad. If we closely observe the present state of affairs in the country, today the nation is passing through severe shortage of natural gas and oil. Now put the above scenario with a population of 261 million or 380 million in 2030, we would certainly reveal a worst picture. It is quite easy to understand that if government continues to walk on this trajectory, the country will not be able to manage the

affairs in future. Over the years, the Pakistan Electric Power Company Private Limited (PEPCO) has been producing 12,000 MW electricity whereas electricity demand has risen to 18130 MW. As a result, 1,300 industries units alone in Punjab (according to Lahore Chamber of Commerce) pulled down shutters during acute energy shortage and to avoid dependence on thermal generation, government's prolonged blackouts further decreased productivity in the country (Faraz, 2010). Figure 2.1 & 2.2 indicates negative impact on the economic activities in the country.

Figure 2.1: Power output in Pakistan

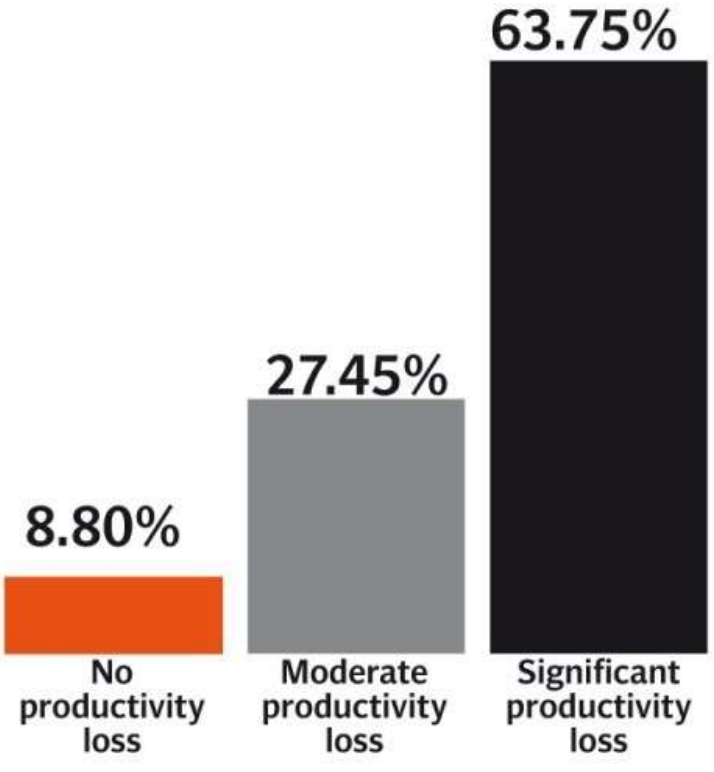


51percent working professionals report to have uninterrupted power at office through generators, 24percent make use of both UPS and generators whereas 9percent lack power back-up supply to perform their

Source: (Dawood, 2012).

Figure 2.2: Power outages sap Pakistan's Productivity.

64% working respondents admit considerable output loss



Source: (Dawood, 2012).

It is, therefore, important that for uninterrupted supply of oil, both during peace and war, Gwadar port's existence is much-needed as an alternate and secure port to provide support to Sea Lines of Communications (SLOCs) in provision of oil in the country as most of country's oil supplies is routed through Persian Gulf region due to its proximity and freight advantages as compared to East Asian Players (Pakistan June fuel oil imports, 2011). Proximity to the oil producing countries, Gwadar port is suitable place for storage of oil and its supply for Asian oil importing countries. The demand for a base of oil stock is the requirement of the day to ensure uninterrupted supply of oil to the Asian countries as some oil producing countries have been passing through political and security disorder which may, as experienced in past, affect a sustainable oil supply as well as its pricing. For strong and close relationship with oil importing and producing countries, Gwadar

port's oil storage base could contribute a significant role in overcoming energy crisis in the country. Keeping in view the financial constraints of the government, such oil stock base's funding could be negotiated with the Organization of the Petroleum Exporting Countries (OPEC) and oil importing countries of Asia (Pakistan Transport Plan Study [PTPS], 2005, pp. 1-2).

Moreover, the recent studies show that Central Asian Republics have around US $ 4 trillion worth of oil and gas reservoirs and by 2050, 80 percent of oil requirements of the United States would be met by the Central Asian States (Yousaf, 2012, p. 22). China on the other hand is also developing good relationships with the Persian Gulf states and it would establish a US $ 3.6 billion oil refinery with Saudi Arabia for import of oil from the Arabian Gulf (Jehanzeb, 2007, p. 94). It is evident that demands of oil import are predicted from different quarters and Gwadar port is the only viable option for transit route of shipments.

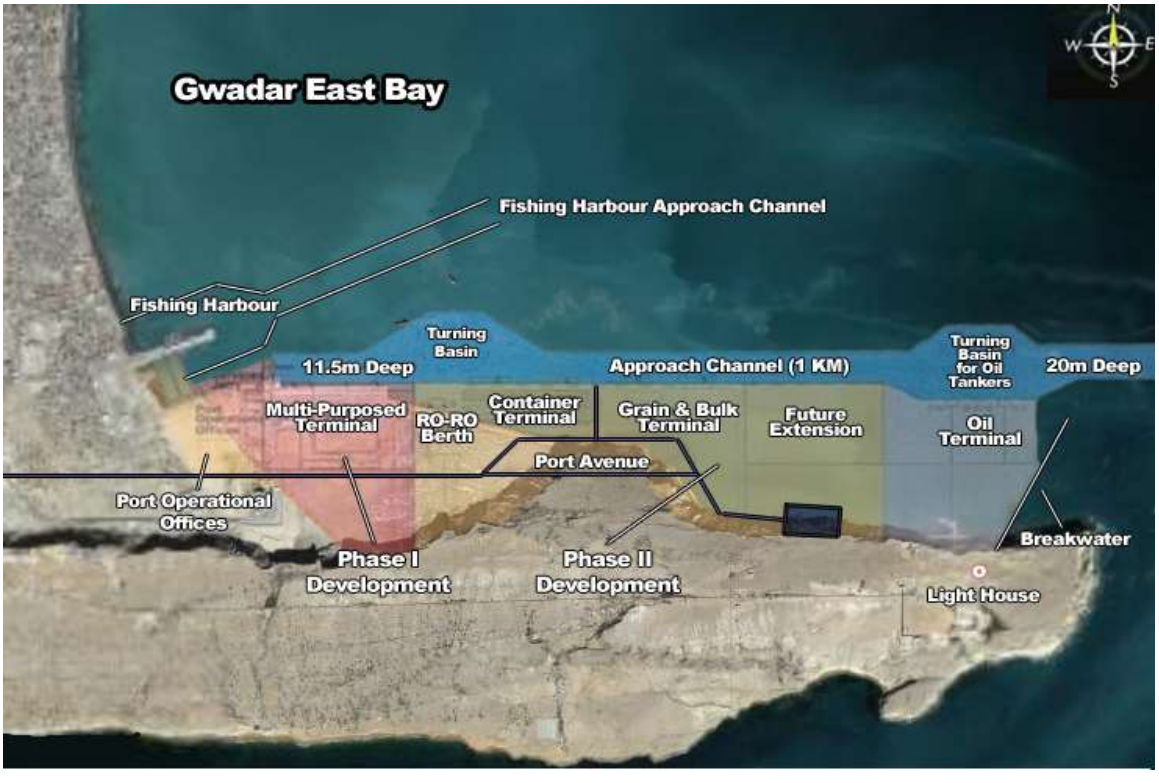
2.4 Developmental Work of Gwadar Port

2.4.1 Work of Port Infrastructure

Indus Associate Pakistan with assistance of Malaysian Arthur D. Little and USA Lyon Associates prepared Master plan of the Gwadar port as shown in the map 2.2 (See Appendix 10.6). Phase I of the project was successfully completed in 2007 with financial and technical support of China. The project at a cost of US $ 298 million was constructed over the period of almost five years, from 2002 to 2007. The construction included three multipurpose over 600 meters long berths and one service berth over 100 meters, with 12.5 meters depth and a 4.5 kilometers long approach channel (Haider, 2007). The port project has a turning basin of

450 meters dia and a 100 to 200 meters service berth (PTPS, 2005). Each berth has a capacity to handle around 30,000 Dead-Weight Tonnage (DWT) (See Appendix 10.4 for port terms) vessels and container vessels of 25,000 DW. On hiring, these berths would be utilized for loading and unloading of cargo of different regions. In the phase I, 602 meter long quay or jetty would handle a container carriers having 50,000 DWT. The annual throughput of these berths is approximately 100,000 Twenty-foot Equivalent Units (TEUs) (See Appendix 10.4 for port terms) of containers, 270,000 tons of general cargo and 450,000 tons of bulk cargo (World Bank [WB], 2008, p. 58). To make the port operation more scientific and modern, pilot boats, tugs, survey vessels and other essential equipment have been provided to the port authorities.

Map 2.2: Gwadar port Master Plan



Source: (Skyscrapercity, 2008)

The 21st century has brought a new paradigm shift in the port management. In today's competitive environment, port operating practices are becoming more market driven and result oriented to seek optimum utilization of the ports. It is, therefore, a logical explanation of empowering port authorities, carriers, terminal operators and logistics service providers for best performance (Verhoeven, 2009, p. 16).

To optimize port performance, countries like the United Kingdom, Morocco, New Zealand, United Arab Emirates, Sultanate of Oman and many more have partially or fully privatized their ports and have achieved desired results (Yousaf, 2012, p. 20). It has been planned by the government of Pakistan that phase II would be constructed with the support of private investors on a Built Operate Transfer (BOT) and Built Operate Own (BOO) scheme. To develop a financially sustainable port and also following international practice, the Port of Singapore Authority (PSA) was given the Gwadar port contract on the landlord basis. This means that the PSA was responsible to manage and run the Gwadar port on a build-operate-transfer basis for a 40-year concession period. The concession for 40-year period included an exemption from corporate tax, abolishment of duties on imports of equipment and machinery for port development (WB, 2008, p. 58). In return, PSA committed to carry out phase II work of the Gwadar port and to bring substantial investments. The phase II construction works comprises of additional two container terminals with nine berths, two oil terminals, two dry bulk terminals, one roll on-roll off terminal, one bulk cargo terminal, one general cargo terminal and channel dredging 20.0 meters depth with all associated port services (GPA, personal communication,

July, 10, 2012). After completion of Phase II, the Gwadar port would be able to handle ships up to 100,000 DWT for cargo and ships up to 200,000 DWT for oil (Hassan, 2005, p. 15).

The Gwadar port, if properly managed, would help in the development of an industrial zone with privately owned warehouses, food processing and preservation facilities, private cargo handling equipment, truck yards and corporate infrastructure. Gwadar port's master plan was prepared in such a way to develop a multipurpose and mother port for the region where mother-ships of post panama category could be accommodated. For this kind of port, a draft of above 18 meters was required. The initial dredging was done to deepen the channel approach to 14.5 meters and followed dredgers were carried out to expedite the process. The existing mini port, known as fish harbor, at Gwadar would be utilized for handling cargo and a fish landing jetty and allied harbor facilities at Pishukan and Gwadar would be constructed (Anwar, 2010, p. 103). In the master plan of the Gwadar port project, it was attempted to empower Gwadar port Authority (GPA) for future endeavors and general development work of the port (Channels access dredging and breakwaters constructions) through fund raising or public-private partnership. It was believed by the planner that private sector investors would be responsible to develop terminals and cargo handling capacity of the port and gradually the port city would transform into an industrial area (Anwar, 2010). The Gwadar port, with best-practice terminal operations, could supersede Karachi and Qasim and would emerge a competing port on the global chessboard (WB, 2008, p. 58).

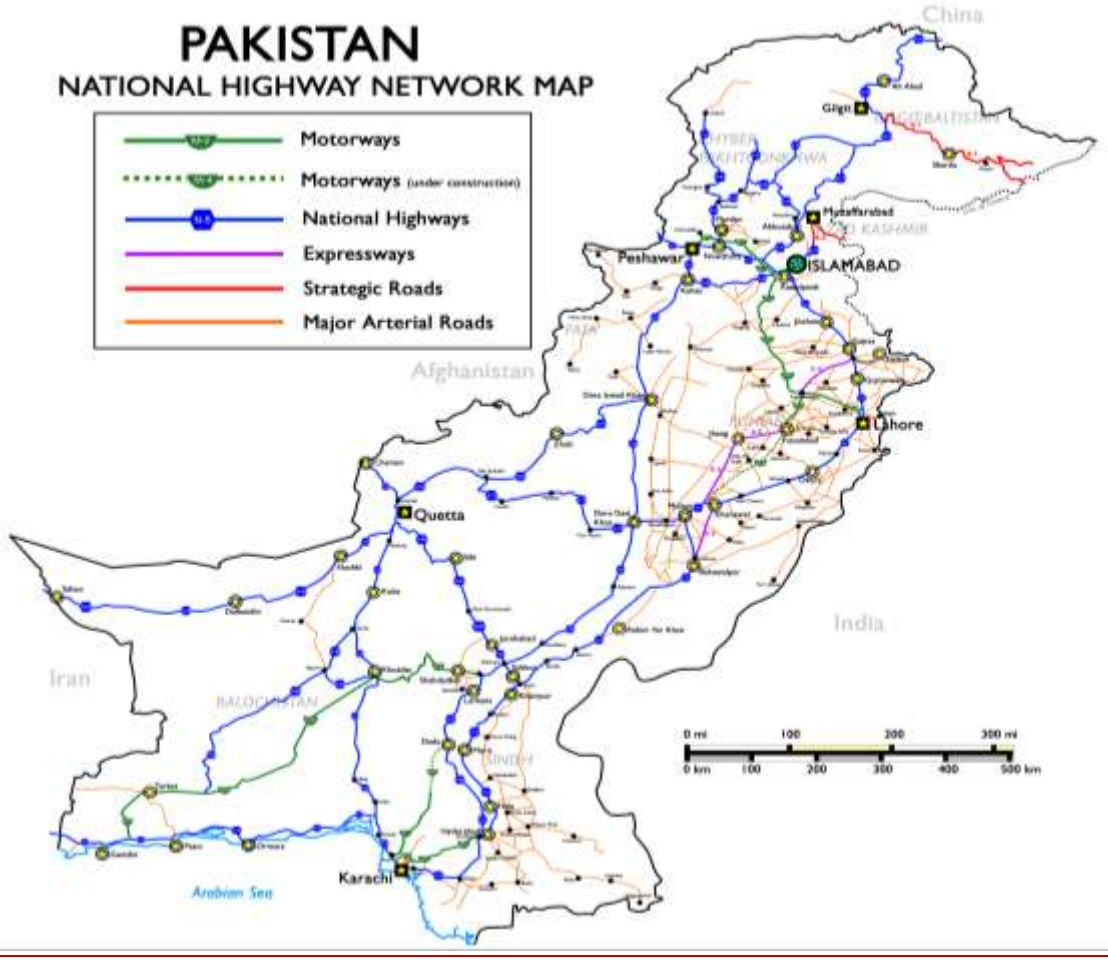
2.4.2 Port Project Associated Work

2.4.2.1 Transportation

Since its independence, Pakistan could not develop an extended road network and the Balochistan province has been the least priority of all the governments to envision any such mega plan. As a consequent, Pakistan lacked required road network system to carry out extended trade within the country as well as within the region. With the development of Gwadar port, a wide spread of road network has been planned to connect the port with the entire region. Today Gwadar has total 1,213 km length of road network out of which 279 km is black topped (metaled road) while rest of the road network is single and dirt. Absence of modern road network and unavailability of black topped roads in Gwadar district never promoted any scale of fish export to Karachi and other parts of the country. In past, routine traffic count per day in the district was 432 only. The dirt road network further hampered the trade progress as the transporters always demanded high fares against their vehicle maintenance.

To integrate Gwadar into the mainstream road network and to capitalize the potential of the Gwadar port in bringing a revolutionary expansion in transit trade in the region, transportation, both road and railway needs to be properly planned and executed (See Appendix 10.5 for economic impact of transport and corridor). Having fully realized this aspect, the government's recent steps to modernize its transportation network across the country is seen in its efforts to transform dirt and narrow roads into wide and modern network, see map 2.3.

Map 2.3: National Transportation Network



Source: (Defence forum, 2010).

For domestic as well as international purposes, the 15 billion rupees Makran Coastal Highway would link Gwadar port with Karachi (Anwar, 2010). This 675 mile long highway would support trade at national and international level, as well. It would connect Gwadar with Pasni, Ormara and Karachi. After construction of the highway, distance between Karachi and Iran has considerably reduced which in the long run will help promote trade and commerce between the two countries. Completion of the Makran Coastal Highway would expose the area to the international investors for all kind of business in Gwadar and on the coastal areas. It would also pave the way for the development and promotion of new townships and tourists' places. Other major road project is the Gwadar-Ratto-Dero motorway or

the Gwadar-Khuzdar highway which would be connected with Indus Highway to link Turbat, Awaran and Khuzdar (Gwadar's road network, 2011). Both these roads along with other underway road network would bring substantial addition to province's infrastructure and thereby opening economic viability of the port for sustainable development in the country in particular and in the region in general (Budhani & Mallah, 2007, p. 10). In addition to connecting Gwadar to Karachi and Punjab respectively, both the highways would facilitate paved roads between various neighboring cities and towns of the province for the first time ever in the Makran history (p. 11).

A motorway would be constructed in the phase II of the project to link the port industrial installations and oil related facilities and storage centers to the rest of the country (Yousaf, 2012, p. 26). One of the road and railway communication networks would connect China at Kasghar from Havelian while linking Afghanistan at Kandhar with Balochistan (Anwar, 2010). For road network, The Asian Development Bank has been providing the Central Asian States with lending as well as non-lending assistance for the development of road and railway infrastructure to materialize intra-regional, extra-regional and transit transport since 1996 (Parkash, 2006, p. 51). To link Afghanistan and Central Asian Republics, a road is under construction which would connect Balochistan and Khyber Pakhtunkhwa province for expansion of trade and attracting trans-shipment facilities from these landlocked states.

Apart from road network, a parallel rail network is also under consideration to achieve desired results as envisioned from the project. At present, no railway network exists in Gwadar district. The government is trying to develop a railway link between Gwadar and Mastung which would link Gwadar port with Afghanistan and Central Asian Republics. After the feasibility report of this mega project, Rs. 107 billion were estimated ("District Development Profile 2011", 2011). The report further reveals that the railway track which would be 901 km long with 35 railway stations will connect Hoshab, Nag, Besima, Surab, Kalat, Mastung, Quetta and Chaman where the track will be spread out in Afghanistan and then to CARs (p. 53). Another mega transportation project would connect China through the Indus Highway. Pakistan with support of China, Kazakhstan, Kyrgyzstan and Uzbekistan is already working on a road and rail network from Central Asia to the Chinese Province of Xinjiang to the Gwadar port (Khan, 2013). China with its East-West railway network could easily transport its cargo from its border city Kashgar to Peshawar and then to the final destination (p. 88). Moreover, China could also transport its cargo to and from Gwadar which would provide it the shortest ever route to the Persian Gulf (Khan, 2013, p. 79).

2.4.2.2 Up-Gradation of Gwadar Airport

At the time of inauguration of Gwadar port project, need for an international standard airport was also conceived by the government (Pakistan Economic Survey, 2007-08, p. 231; National Engineering Services Pakistan [NESPAK], 2013, pp. 52-53). Presently, all the major coastal areas including Gwadar, Pasni, Ormara and Jiwani have airports yet none of them have any international standard airport

(Government of Balochistan & IUCN Pakistan, 2007). Though Gwadar's airport has an international status yet it can only handle Fokker aircraft and is insufficient to meet the requirements of a port (Shahid, 2011b). Moreover, to handle the flow of trade from different regions, a country cannot rely on one means of transportation for trading and the magnitude of trade requires additional sources of transportation (Abdul Khalil, personal communication, CFP Askari Aviation, August 8, 2013). An airport of international standard can further complement the potential of the port. On the direction of federal government, the Civil Aviation Authority of Pakistan acquired 43,000 acres in 2007 for the construction of Gwadar International Airport. Tousif Yousaf (2012) discuss in his research thesis that the area has been marked for the new airport from the point of 26 km northeast site of the existing airport and the development of the airport includes expansion of the airport runway to accommodate landing of wide body airplanes and airbuses (p. 28). The airport was designed to set up largest terminal in the province at a cost of US $ 125 million (Shahid, 2011b). The airport project was partially funded by Oman with support of US $ 17 million and the rest was provided by Pakistan, roughly US $ 11 million (Yousaf, 2012, p. 28). As per reports, the new airport would be of international standards to facilitate both passengers and cargo handling.

2.4.2.3 Developmental Work of Industrial Zones

A special Industrial Development Zone (SIDZ) over 4,000 hectares of area is being developed on the northern site of Gwadar and about 30 km from the port. The zone would help and facilitate in setting up various industries in the vicinity of the port. The Gwadar Industrial Estate (GIE) would also be created with estimated 2,000

industrial units. The GIE would employ about 30,000 workers and 3 million jobs would also be created (Desalination Plant for Gwadar, 2006, p. A1). The country would earn foreign exchange with export-oriented production. As the Balochistan province has no other way of producing clean drinking water, the federal government would support the provincial government for installing a plan to mitigate water requirement of the Gwadar Industrial Estate (GIE) for 15 years at a cost of US $ 12 million (Yousaf, 2012, p. 26). The plant would not only recycle waste water of the industry but it would also meet the water requirement of irrigation. The government of Balochistan has already allocated 3,000 acres of land for the port out of which 20 acres would be utilized for the water desalination plant and facilities. This facility would be cost effective for the irrigation to almost 1/3 of the cost incurred to obtain water from tankers. In 2007 Abu Dhabi's International Petroleum Investment Company (IPIC), a UAE oil exploration company, signed an agreement to set up khalifa oil refinery at Gwadar port with a 300,000 barrels per day capacity at a cost of US $ 5 billion (Haider, 2009).

2.4.2.4 Construction of Army Cantonment

The law and order situation in the Balochistan province compelled the government to permanently station its army in the vicinity of Gwadar port to safeguard its strategic interests and valued assets in the region. In September 2007, the Pakistan Army GHQ acquired 11,000 acres of land at the port to construct defence centre and was called the Combined Defence Complex (CDC). The army presence in the region had multifold aims: to provide defence to the valued assets such as the Gwadar port and associated assets; to provide coastal defence and to maintain law

and order situation in the vicinity of the port. For this purpose, government further allowed army to construct two garrisons in Balochistan.

2.4.2.5 Trans-shipment Facility of Gwadar Port

Transshipment is a freight cargo that is transported from a bigger vessel of a hub port to a feeder vessel (smaller vessel) in a smaller port and vice versa. The main line routing of East and West, carries the world's largest and heaviest traffic container ships, all major shipping lines prefer to use a hub and spoke system for their transshipment. The geo-strategic location of Gwadar port places it closer to the main shipping routes into and out of the Strait of Hormuz and could be compatible with the Persian Gulf ports. Its location could make it a regional transshipment trade. However, acting as a regional transshipment hub port would not be simple in the present scenario where a number of Persian and Arabian Sea ports have already established their strong foothold in the regional transshipment traffic. The competing ports include Salalah in Oman, Khor Fakkam in the United Arab Emirates and even Bandar Abbas in Iran are functioning as regional transshipment hubs to provide feeder vessels to the entire Persian Gulf, India and Pakistan. To act as a regional transshipment, Gwadar port's success depends on its ability to offer efficient and smooth management, port accessibility parameters such as depth and congestion and cost effective port operations for the ships. Currently Pakistan's both the ports at Karachi are poor in performance in comparison with the ports of Oman and UAE. The deteriorating situation in the Persian Gulf would have some advantages for Gwadar over the ports of Salalah and Khor-Fakkam as international

insurance companies have raised insurance costs of the ships heading into the Persian Gulf.

2.5 Hub Port

2.5.1 Hub Port: Concept and Definition

What is a port? A seaport is a place where the transfer of cargo and passengers to and from vessels to and from waterways and shores takes place. The port could be a cargo port – where transfer of cargo only handles or a passenger port where passengers' transfer handles or a combination of both (Talley, 2009, p. 1). Ports' ownership and management vary from place to place and country to county. Ports could be managed and operated by privately owned companies or public (State) owned companies. The main difference here is that former prefer profit in the port management business and later seeks long term economic development (p.2).

The Oxford Concise Dictionary (2005) defines the term "hub" as a central piece of vehicle's wheel and exchangeable with centre. The concept hub is derived from a bicycle wheel with a strong central part called 'hub' with connecting spokes. According to Smith (2012) in the hub and spoke system, all transportation and freight cargo is collected at a central part (i.e, hub) and redistributed to their final destinations via a network of spokes.

2.5.2 Hub and Spoke System: Concept and Explanation

The hub and spoke system provides an efficient, cost effective and diversified route network system. The system has been in practice for commercial aviation for

carrying both passengers and freight. As per historic documents, Delta Airlines pioneered the system in 1955 (European Commission [Country Report Iceland], 2014, p. 2), but it was implemented and executed by FedEx Company in 1970s and ever since the system was widely followed by majority of airlines and shipping companies that normally operate in deregulated markets (Smith, 2012, pp. 6-7). The system of hub and spoke is always preferred by freight companies for many reasons. As the freight company has day to day operations and the system provides the company to maintain smaller work force for management of its operations from central location i.e., hub. The system is cost effective in a sense that parcels and freight is sorted out at the hub than in various locations and its timely redistribution not only brings efficiency but its central management mechanism also reduces the risk of errors.

The World Bank periodic report "findings" (World Bank, 1998, p. 1) explains that the hub and spoke system provides a containerized sea borne trade transport for transshipment of cargo to a region which is first transported at a primary hub port and then redistributed or delivered to its final destination by sea, rail, air, road or inland waterways depending on the nature and size of the cargo. Two main characteristics are important which distinguish hub port from other ports of the region: (a) the port should be geographically adjacent to the surrounding regions; and (b) it should facilitate and accommodate large vessels.

2.5.3 Evolution and Transformation of Hub Port

Under the UNCTAD's report, as mentioned by Nam & Song in their research that there are four evolutional patterns of port development (2010, p. 12): In the first evolutional pattern of port development; before 1960, ports were considered as a junction between sea and inland transportation. The ports were made to provide cargo handling, cargo storage and navigation assistance and transportation technology and modernism in port mechanism could never be promoted as the ports were left at the mercy of government officials and representatives.

The second pattern of port development; from 1960 to 1980, a system was devised to introduce port authority for well-management and well-execution of port operations. A system was developed to divide certain responsibilities between government and port authority to accrue desired results with cooperation for mutual interests. As a result, port function and operations were expanded from port handling to logistic services and private investors and enterprises took keen interests in the port business. In this pattern of port development, a bond between freight forwarders and cargo owners was developed which was neglected in the first pattern of port development.

In the third evolutional pattern of port development; from 1980 to late 1980s, container transportation was rapidly developed and new intermodal transport system was introduced. The port operations and activities for production and transportation were started to manage through an international network. The port's functions and responsibilities were further increased ranging from logistics to

physical distribution. In the third port evolutional pattern of development, more focus was given to efficiency than effectiveness of the port system. During this phase, port authority established market oriented strategies to accommodate customers demand.

Last port evolutional pattern of development; since 1990, a paradigm shift in port mechanism and operation surfaced. The port operations and mechanism were made dynamic to cater emerging requirements of the port customers and shippers. Customers were provided with value-added logistics services to facilitate them for their supply chain.

Having assessed the evolutional pattern of port development, traditionally ports were considered as areas established to receive ships and other modes of transport and handle their cargo from ship to shore and vice-versa (Paixo and Marlow, 2003). However, there is substantial expansion in the modern port system which provides a connection in the supply chain and its efficiency and performance (Cullinane and Song, 2002).

2.5.4 Advantages of Hub and Spoke System

Since the end of cold war in 1990, mammoth expansion in global trade and economic development has substantially replaced the world trade pattern with container liner shipping and seaports (Nam & Song, 2010, p. 8). In the transport industry, hub and spoke system which is also known as trunk and feeder route system was introduced to integrate all ports in the global supply chain to meet the

requirements of container vessels with cost effectiveness. To meet the international standard of hub ports, countries are expanding their port hinterland by developing logistic centers (Free trade zones and free economic zones), container terminals, cold storages and warehouses, trucking yards and cargo handling, offices for port operations, corporate infrastructure and marketing and industrial export processing zones.

The present economic globalization has led the promotion and facilitation of free trades endorsed and supported by the Uruguay Rounds (UR) and later by the World Trade Organization (Dicken, 2003). The current international economic trends such as liberalization of trading goods and services and induction of information technology have further promoted business and trade opportunities across the globe which have in one way or the other encouraged both private and public sectors for economic and trade integration (Lee and Oum, 2003).

2.5.5 Emergence of Gwadar as a Hub Port

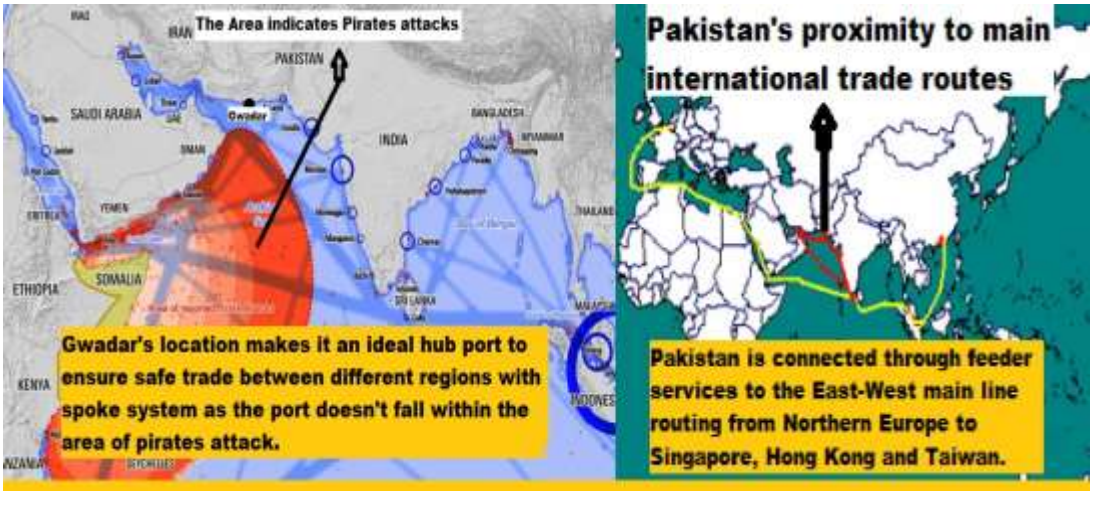
Tongzon (2007) provides nine key determinants for a successful hub port, these are: a) efficiency level of port operation; b) cargo handling mechanism and charges; c) port reliability; d) port selection preferences of carriers and shippers; e) navigation channel's depth; f) dynamic on international market environment; g) landslide accessibility; h) product differentiation and i) role of government and port authority (pp. 245-252). Hassan (2005) in his research highlights three main factors for determining the strength and capacity of any port by its operation to: a) load and unload cargoes; b) shift or transfer cargo in and out of the port vicinity; and c) store

cargo within the port area (pp. 12-13). The quality of onshore infrastructure accounts for much better for transport cost effectiveness than a poor infrastructure port. The port efficiency is largely dependent on its geography and distance. Hub port is basically planned to operate at optimum efficiency to become a value added entity in the state's economic affairs. The most advantageous part of hub port is that it actually establishes a direct contact between local importers and exporters thus reduces transportation time and cost. This has further encouraged global partners to develop free trade zones with the hub port authorities for mutual economic benefits.

The geographical location of Gwadar and its close proximity with oil-rich Persian Gulf states is of great potential to maximize utilization of untapped oil and gas reserves of the region by exporting it to the international market (Tariq, 2011, p. 6). Being a warm-water port, Gwadar port could easily operate all the year. According to Arthur D. Little, a Malaysian consultant firm, (2006) points out the below positive aspects of the Gwadar port: a) low cost land and labour would attract industrial complexes; b) adjacent to oil and gas resources of the Persian Gulf, opportunities for establishment of oil refineries along with attraction of import and export would be flourished; c) proximity to major shipping lanes of Indian Ocean would encourage establishment of shipping industries; d) onshore location would provide opportunities for industries for food processing and mineral extraction; e) tax holiday status would also attract more investment and export manufacturing in the region. Gwadar port location makes it different from the rest two ports of the country and being a hub port it is not only capable of handling local transport but also caters transshipment of the region. Gwadar port hub services (transshipment

facility) would increase the scale of trade of the port due to its porting and deporting operations as shown in map 2.4. Apart from its location, Gwadar port under its master plan would be provided more handling and operational facilities such as terminal facilities, facilities of feeder services with geographical coverage and attractive cargo- handling charges and latest container handling equipments to safely handle mammoth vessels (Hassan, 2005, p. 12). The terminal facilities of Gwadar port would enable it to handle transshipment trade in efficient manners. The terminal includes sufficient provision of cranes, container handling and storage facility and computerized mechanism for terminal operations.

Map 2.4: Emergence of Gwadar as a Hub Port to catch transshipment



Source: (Kaleem, 2014).

To develop a viable hub port option to the world, the government of Pakistan provided free tax and tax holidays (tax exemption) for establishment of various industrial zones and duty free economic zones to attract investors. The tax exemption is more or less the same as offered by some of world leading hub ports including the Persian Gulf ports. The exemption duty on customs, sales tax and

excise was also extended for the proposed Export Processing Zone (EPZ) for local and foreign investors (Shahid, 2008, p. A1). Handing over the port affairs to the Port of Singapore Authority (PSA) and later in 2012 to Chinese port authority to bring self-sustainability and private ownership for the development of the future projects of the port is another move on the same international patterns and trends.

2.6 Gwadar Port Competition with Regional Ports

2.6.3. Persian Gulf Ports

2.6.1.1 Dubai and Jebel Ali Ports of United Arab Emirates

Although the UAE has port of Dubai, Jebel Ali, Khor Fakhan, Zayed and the Khalifa ports, yet Dubai and Jebel Ali are considered competing ports for Gwadar due to their scale of operations and geo-political significance. Dubai Ports Authority (DPA) is currently operating two main seaports, Port Jebel Ali and Port Rashid. DPA operates more than 65 marine terminals across the globe and container handling is the main source of business which generates about 80 percent of its revenue (Dubai Port World, 2014). The main advantages of Dubai ports are its experienced and professional team comprising of about 28,000 people and modern technology and operational skill which has earned it the title of 'Best Seaport in the Middle East' for 19 consecutive years.

The port of Jebel Ali is the largest port in the Persian Gulf region which has a poly-functional terminal facility spread over 20 km of quayside with 23 container berths to handle large vessels (Yousaf, 2012). The port with the state-of-the-art handling equipment has been linked with Dubai Airport to facilitate trading of perishable

goods. The port has a large storage facility for petro-chemical and oil products, raw materials and cool storage for perishables (p. 30). In 2013, Jabel Ali Port alone handled 13.6 million TEU (DP World, 2014 p. A1).

2.6.1.2. Salalah Port of Oman

Oman has Salalah, Sultan Quboos, Sohar, Muscat and Qalhat ports. Port of Salalah is the main trading port of Oman which is considered a direct competitor of Gwadar port. It is also one of the world class transshipment hubs located in the West Central Asian region. Its geo-strategic location at the main East-West Shipping lanes attracts the world's largest ocean going ships as it facilitates with little diversion to large ships. Developed in 1998, Salalah Port is handling a container terminal and capable of accommodating vessels up to 16m draft. The port has 7 container berths along with 25 post panama gantry guay cranes. In 2012, Salalah Port achieved a productivity of 72 mph and handled 3.62 million TEUs (Port of Salalah, 2014, p.A1).

2.6.1.3. Ras Laffan Port of Qatar

Qatar has Ras Laffan, Doha and Mesaieed ports. However, the port of Ras Laffan of Qatar may be a competitor of Gwadar port in the long run. The Ras Laffan is an oil industry based port with modern deployment infrastructure spread over 2100 acres and has the facility to handle export of the world's biggest liquidized natural gas (Yousaf, 2012, p. 30).

2.6.2 Bandar Abbas and Chabahar Ports of Iran

Iran has six ports namely Khorramshahrm, Imam Khomeini, Bushehr, Bandar Abbas, Shahid Raiai and Chabahar ports. However, Bandar Abbas and Chabahar ports of Iran are direct competitor of Gwadar port. The Bandar Abbas is a medium port located near the Strait of Hormuz. With its 6500 meter approach channel to facilitate navigation of two oceans going vessels at the same time (Iran Gulf, 2013, p. A1). The port has 24 container berths to facilitate different cargoes. In 2011, Bandar Abbas handled about 2,800,000 TEUs. Chabahar Port is another seaport located in southeastern Iran bordering Indian Ocean and Oman Sea. This is the only port which has direct access to ocean.

2.6.3 Karachi and Bin Qasim Ports of Pakistan

Pakistan has two main operational ports located in Karachi. Karachi Port handles about 14 million tons of liquid and 12 million tones of dry cargo (Hassan, 2005, p. 19). Port Qasim on the other hand is just located 56 kilometers away from Karachi Port. Port Qasim handles over 16 million tons of cargo which is equivalent to 0.42 million TEUs. Karachi port has 30 container berths facility whereas Port Qasim operates with 10 container berths facility.

2.6.4 Comparative Advantages of Gwadar port

There is an adage in transshipment “location, location, location “. This still matters a lot in the contemporary world seaborne trade. It takes a seaport with location, innovation, technology, productivity and professional and dynamic management to succeed. Gwadar port is a natural deep sea port which can easily handle mother ships on the one hand and its location at the mouth of Persian Gulf and at the key

world shipping lanes makes it an ideal commercial hub to attract transit as well as transshipment trade of Central Asia, Afghanistan, Western China and even beyond on the other hand. Gwadar's location is also further away from India than twin ports in Karachi which makes an obvious strategic sense for policy makers (Bleuer, 2007, p. A1). In addition, Gwadar is a God-gifted natural deep sea port with capacity to expand port operations up to 88 berths and ability to anchor mammoth vessel up to 1,00,000 -2,00,000 DWT unlike the contemporary ports of the Persian Gulf, especially Dubai and Iran (M. Afridi, personal communication, December 12, 2012). The United Nations Industrial Development Organization (UNIDO) suggests that Pakistan has comparative advantages of transport services over regional countries to attract regional trade by gaining 1.73 in comparison to 0.51 for India and 0.39 for Bangladesh in average comparative advantages (Economic Survey, 2013, pp. 165-176). Thus the report reveals that Pakistan is better located to attract trade while taking full advantage of its network of transport services than these two regional countries. Following analysis are made to establish how Gwadar port will emerge as a commercial hub port for the surrounding regions vis-à-vis ports of Persian Gulf and Iran.

2.6.4.1 Political Turmoil of Persian Gulf and Iran's Nuclear Standoff with West

The political turmoil sparked initially in Tunisia, has now spread over the whole Middle East engulfing Yemen, Syria, Libya, Bahrain, Egypt and Iraq and has also affected economic prospects in the region. This prevalent deteriorating situation in the Middle East is a discouraging factor for the Salalah port in particular and the

Persian Gulf ports in general to attract transshipment business in the long run. The ports of Bandar Abbas and Chabahar are strategically located very close to the Strait of Hormuz which is also problematic issue for Iran due to high traffic and presence of US Navy (Arifeen, 2014, p. A1). International isolation of Iran on its nuclear stand-off with the west does not encourage international shipping companies and businesses to operate their trade with or through Iran. In addition, growing Iran-US tension has further complicated geo-political scenario of the region. In this backdrop, Gwadar port provides a stable and proximate point of access to the Gulf ports.

2.6.4.2. Domestic Ports Handling Issues

As explained in this chapter, both Karachi and Bin Qasim ports have some serious narrow space issues to facilitate mother ships. In addition, the two ports are already overburdened with serious congestion from fishing, commercial and military shipping (Bleuer, 2007, p. A1). The geographical proximity of these two ports with the Indian border also alarms policy makers to avoid occurrence of similar devastating blockade imposed by the Indian Navy in 1971 war.

2.6.4.3. Ship-Turn-Around Timing

In the world seaborne trade, ship turn around timing is an important factor so far cost-effectiveness is concerned. World Bank study suggests that ship turnaround timing costs 60 percent while port tariff structure just factors 20 percent in cost. In an another study conducted by UNCTAD argues that disadvantage of location or port facilities in terms of required equipment to facilitate large vessels may affect

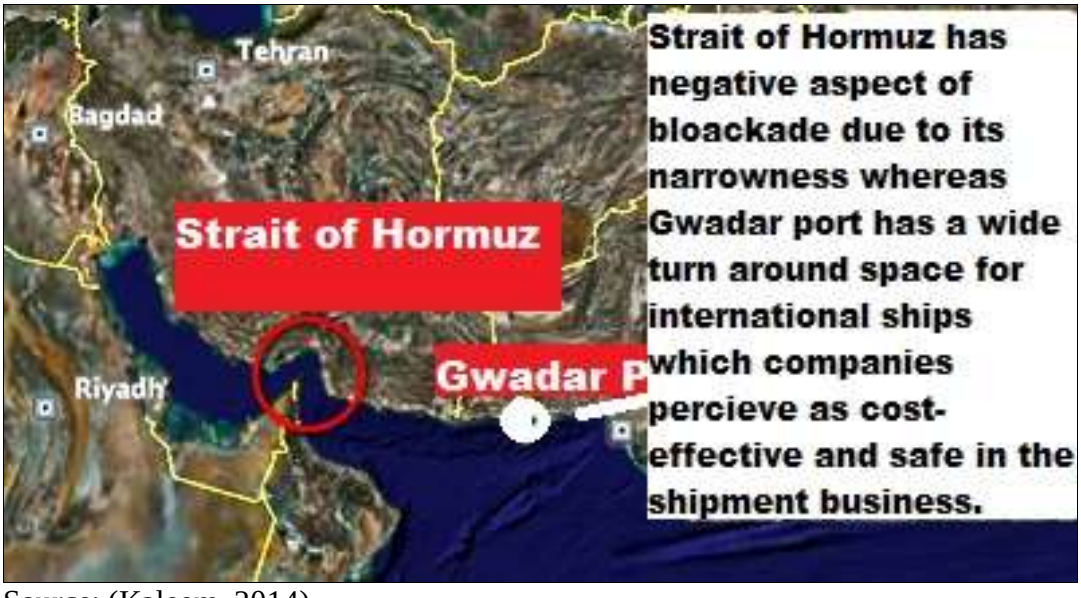
cost of cargo beyond calculation (Mokhtar & Shah, 2006, pp. 2-5). See below table 2.1 which reflects port performance indicators suggested by UNCTAD. Gwadar deep natural sea port has a comparative edge over all regional as well as domestic ports to facilitate mammoth ships with minimum turnaround timing. In comparison to Persian Gulf Ports especially Dubai Port, Gwadar port, being a natural deep sea port located at the mouth of the Persian Gulf, offers more facilities and will handle more cargo and trade of Central Asia, Afghanistan and Western China (Haq, 2012). On the other hand, narrowness of Strait of Hormuz also creates difficulties for free passage for ships as only one large ship (or a few small ships) can pass through the strait at a time. As a consequent of congestion, ships have to wait for days for the route clearance (p. 23). See Map 2.5 for comparative analysis between Persian Gulf and Gwadar port's location.

Table 2.1: Port Performance Indicators suggested by UNCTAD

S #	Indicators	Cost implication Caused by factors
1	Financial Indicators	Tonnage Worked
		Berth Occupancy Revenue Per ton of cargo
		Cargo handling Revenue per ton of cargo
		Labour Expenditure
		Capital equipment expenditure per ton cargo
2	Operational Indicators	Arrival Late
		Waiting Time
		Service Time
		Turnaround Time
		Fraction of Time berthed ships worked

Source: (Mokhtar & Shah, 2006, p. 4).

Map 2.5: Turn-around Space of Gwadar Port

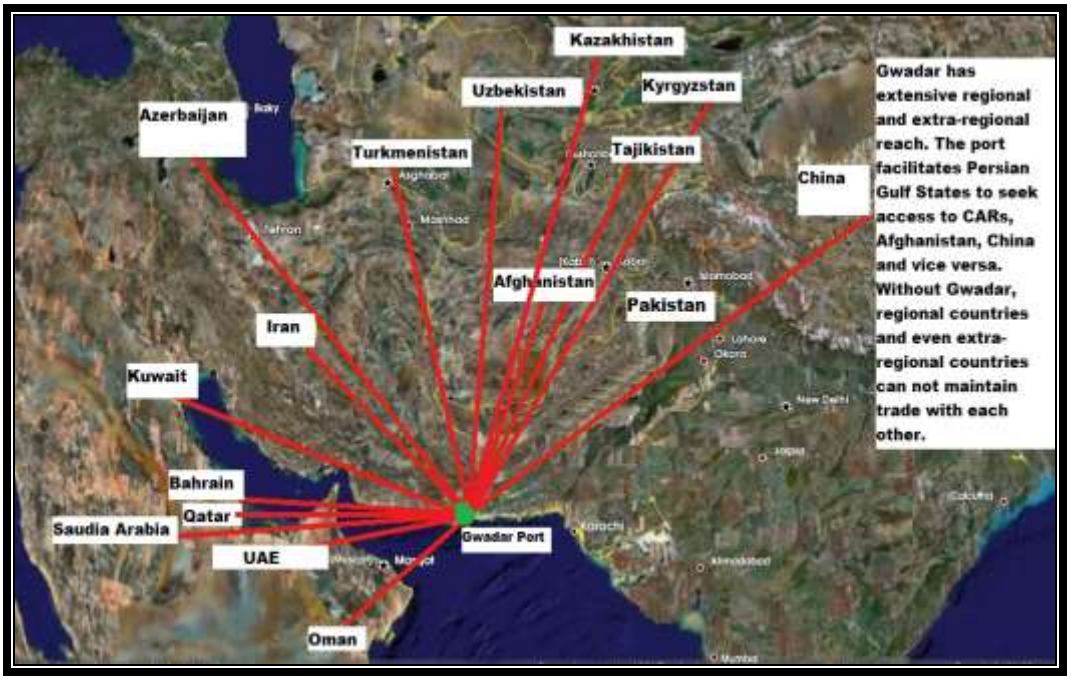


Source: (Kaleem, 2014).

2.6.4.2. Gwadar Facilitates with Hinterland Market Access

Gwadar port is advantageously located to serve as a commercial centre for South, West and Central Asia in addition to China (Hassan, 2005, p. 21). Mega projects of road transportations are underway to connect Gwadar port with all main transport networks of the country which will further be linked with neighboring countries to facilitate regional trade. This hinterland market access do not enjoy by many Persian Gulf Ports. See Map 2.6 which reflects extensive reach of Gwadar port.

Map 2.6: Gwadar extensive regional and extra-regional reach



Source: (Kaleem, 2014).

2.6.4.3. Gwadar Provides Hub Port Facility

Gwadar port with its geo-graphic location can act as a hub port to attract transit and transshipment trade of the Middle East, Central Asia, Afghanistan and China. The whole world can benefit of transit and transshipment facility of Gwadar port. Both liquid and dry cargo can be hauled from the port and transported to the final destination with much cost-effectiveness which other regional ports cannot offer. The port can facilitate Central Asian Republics with world access to their products and likewise help China secure its oil imports through a shortest route linking Gwadar with Xinjiang province. Moreover, the port is equally important for Middle East to seek access to South Asian and Chinese markets. Gwadar port equally benefits Indian North-Western part to provide a short route to the world market than its own coast which is far away (Haq, 2012). The hub status of Gwadar port is such that the entire regional and global trade converges and diverges at this port which the Persian Ports including Dubai lack this aspect (p. 23).

2.6.4.4. Rocky Features of Gwadar port

All Persian Gulf ports are in creeks and require heavy maintenance cost while Gwadar port is a rocky port which can easily be maintained with minimum cost (Haq, 2012, p. 23). From business point of view, Gwadar port becomes more attractive to investors in the long run than other regional ports. Moreover, Gwadar is a God-gifted natural deep sea port whereas Karachi and Bin Qasim ports are not. That is one of the factors that Karachi port was constructed over 100 billion rupees to develop it a deep port while Gwadar port has been constructed with less than 20 billion rupees (p. 32). According to available statistics, maintenance cost of Karachi port is four times higher than Gwadar.

In short, the prevailing geopolitical turbulence in the entire Middle Eastern region, existing international sanctions against Iran and limited capacity of domestic ports pave the way for Gwadar deep sea port to emerge as a vibrant commercial hub in the region to attract transit and trans-shipment trade from the surrounding regions. According to the Asian Development Bank study, Gwadar port can serve as an alternate port to Dubai port due to its geostrategic proximity of the Strait of Hormuz and deep water nature to facilitate large vessels of "S" class category with minimum turnaround timing facility (Malik, 2012, p. 61). Currently, Gwadar port, due to its transition and political situation, caters very small volume of shipment. However, after completion of all port related mega projects, Gwadar is estimated to tend to capture transit and transshipment trade to and from Central Asia, Afghanistan, Western China, North-Western India and even Iran due to its geo-political importance (Saeed & Larsen, 2013, p. 100).

2.7 Conclusion

In today's era of globalization, trade through containerization has progressed in international shipping and has become a pivotal factor for economic development and integration of the regions. This global tendency has equal impact on Pakistan. Absence of modern ports, proper transport communication infrastructure like sufficient ports, network of road and railway, intra-regional trade among regional countries of South Asia, Central Asia, West Asia and China could not be fully utilized and regional trade would continue to suffer due to high transportation charges and caused delays in delivery of products. Pakistan's freight trade which is almost 95 percent of total trade is a lifeline of the country economy. In case of any blockade either imposed by enemy or caused by vessel collision, all physical distribution system of Pakistan comes to standstill. In this kind of situation, the entire country could face acute economic crisis. To avoid such kind of risk or devastation, establishment of Gwadar port appears inevitable development.

The geo-strategic location of Gwadar deep sea port makes it an ideal hub port to facilitate landlocked regions of Central Asia, Afghanistan and western China with transit and transshipment services and can easily handle the largest ships throughout the year. Gwadar port due to its geographic placement as a trade conduit facilitates landlocked countries of Central Asia, Afghanistan and Western China to export their abundance energy and other precious products to the international market. Moreover, in the prevailing unstable geo-political situation in the Middle East, Gwadar port stands to benefit as a safe and secure alternate hub port capture transit and transshipment trade of the world economies and surrounding regions. As the port is located closer to the main shipping routes into and out the strait of hormuz,

East and West routes which carry the world's largest and heaviest traffic container ships, Gwadar port emerges as a compatible with the Persian Gulf ports. This insecure environment pushes global actors to seek secure and safe access for their trade and energy supply to the international market and for this matter Gwadar port emerges as an economic realization on the shore of Arabian Sea.

CHAPTER - 3

ROLE OF SEABORNE TRADE IN ECONOMIC DEVELOPMENT OF A COUNTRY

> *"Oceans, seas, islands and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical for global food security and for sustaining economic prosperity and the well-being of many national economies, particularly in developing countries".*
>
> (**UN Report on Sustainable Development, 2002, p. 22**)

3.1. Introduction

Today we live in an era of integrated global economy which is marked by free flow of capital foreign labour markets and free trading of goods and services. The globalization in the context of economic integration means a unified effort on our part to bring integration in economic, trade, financial and related activities. In global economy, according to Dr. Rakesh Mohan Joshi, states' economic interactions operate beyond their frontiers in an interconnected and inter-dependent world where flow of capital, goods, technology and services has neither barriers nor any boundary restriction (2009). In this economic system, states having strategic ports -- gateways of commerce and centers of finance can benefit for greater long-term economic prospects and development. The Maritime industry includes marine transportation, shipbuilding, marine manufacturing, marine engineering, port services, marine terminal operation, marine construction, marine operation, marine environmental services, tourism, commercial fishing, aquaculture and recreational boating (Connecticut Sea Grant, 2013, p. 17). It goes without saying that maritime sector, if properly managed, can set the national, regional and even global economies in splendid order.

It is a recognizable fact that maritime economies and societies are largely dependent on the sea for their progress and development. Country's coastline, its mercantile marine, ports and industrial zones, communication infrastructure and economic framework are the contributing determinants for the development of its maritime sector. Thus, seaports are the hub of the maritime sector of a nation's economy and act as gateways and conduits between their hinterlands and forelands in exchange of Merchandise. Volume and regularity of a nation's shipping and shipbuilding industry largely depends on the capacity of a seaport. Larger ports determine larger shipbuilding industry in the countries and smaller ports can only regulate limited volume of shipping. However, seaports are not just conduits for trade and commerce activities, rather they exert far-fetch impact on their hinterlands -- a port has many hinterlands stretching from the port to all communication and transportation links (Olukoju, 2004, p. 161). Moreover, the author argues in his research that the social and economic impact of seaports and their allied industries on the surrounding regions are immense. Ports' activities and shipping generate employment and promote the progress of industrialization in the area. In this regard, Maritime Industrial Development Areas (MIDAs) is a glaring example which came shortly after World War II in Europe (p. 163).

Economic globalization and advancement in the means of transportation has substantially brought the likeminded world economies into the orbit of interdependence. This openness has resulted in increased economic growth for the countries and at the same time given realization to others to follow suit (Dollar & Kraay, 2004, p. F25). Being the most economical, reliable and efficient means of

transportation, 90 percent trade of the world is routed through sea. Economic integration and interdependence have reached to a level where globalized economy is failed to produce desired economic growth for all without their sheer goodwill and international solidarity (United Nations Conference on Trade & Development [UNCTAD]'s Trade and Development Report, 2011, p. I).

According to the recent research conducted by Energy and Environment Research Associates of United States, Corbett J. J. and Winebrake, J. argue that with introduction of low-cost petroleum energy for vessel propulsion, (the international shipping switched from the coal-powered ships to fuel-efficient engines as oil-powered ships were largely preferred by companies due to its low costs impacts and military vessels were preferred due to its performance) the transfer of raw and semi-raw materials and intermediate goods/products started transporting from one part of the world to another where manufacturing costs were lower for finishing assemblage and then distributed in the consumer market. Thus this identified labour markets overseas and encouraged trading between one continent to another and the per-unit costs of semi-furnished goods were reduced by multi-continent supply chains. For example, agriculture products which were harvested on one continent (e.g., Cotton grown in North America), transported to another for intermediate processing (e.g., African fabric mills), shipped to a third continent for final assembly (e.g., Asian apparel factories) and then delivered to market for sale in retail stores (e.g., North America or Western Europe) (International Transport Forum [International Transport Forum], 2008, p. 7). Likewise, transportation of all those products which are not available in the domestic market due to seasonal or

climatic limitations, are being imported by the continents from the other markets in order to run their factories in off-seasons. It is done for two purposes i.e., to compete their domestic products and to minimize the higher cost.

3.2. Seaborne Trade and Economic Growth

Since the end of the Cold War in 1989, the world has experienced a new trend towards economic globalization. This has resulted in the world integration of finance, market and technologies which enabled individuals, corporations and nation states to reach the world market faster, cheaper and even deeper while adhering to free market capitalism on a scale never witnessed in the world history (Friedman et al., 1999). The globalization and its economic prospects on global scale, has driven the states to achieve sustainable economic growth to increase their prosperity (Wright, R. 2000, p. 56). It is a recognizable fact that seaborne trade with liberalization global trade order help reduce poverty and support economic development in the country. Proceeding analysis would substantiate these arguments.

3.2.1. Role of Maritime Transport in Economic Growth

The ocean is the highway for international trade and 90 percent of its trade is seaborne (Global Marine Trends, 2030, p. 51). Maritime transportation is an important, cost effective and energy-efficient linkage in the world supply chain and has brought about a sustainable development to the world struggling economies. Today it has become an integral part of the global economy (ITF, 2008, p. 4). Maritime transport activity is a system with a network of ships, ports and transportation infrastructure which helps in the process of transportation of goods

from various factories to terminals and from terminals to the distribution points or markets. For many commodities and trade, maritime transport is the most reliable and economical waterborne commerce and freight transport system. Waterborne commerce is considered as a sole source of transportation as compared to the air transportation which carries lightest cargo with smallest volume of the highest value. Moreover, within country or region maritime transport is also considered replacement to road and railway. In addition to the above advantages of maritime transportation, it equally contributes to carry passenger through cruise ships and ferries, facilitates naval vessels for national defence, helps extract coastal resources and fishing and provides navigational services including maintenance of vessels and vessel-assist tugs etc (ITF, 2008, p. 6).

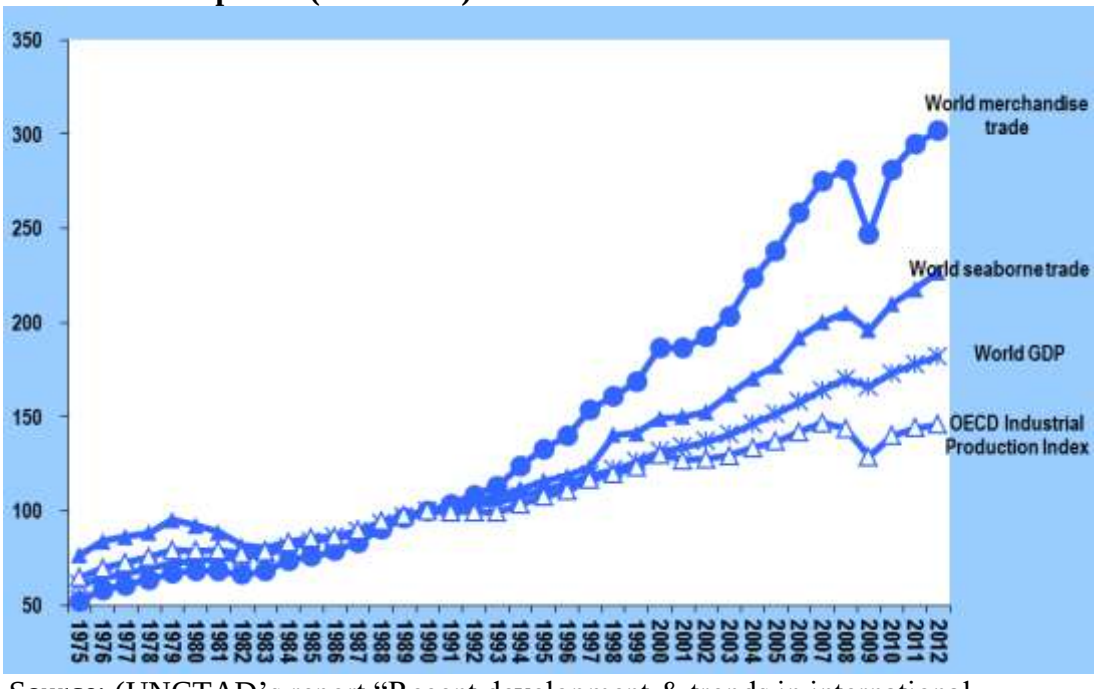
It was until the 1950s, that crude oil was refined at the source and then made available to consumers by small tankers having 12,000 to 30,000 DWT of size (Corbett & Winebrake, 2008, p. 6). However, with the passage of time emergence of economic globalization started demanding from oil companies not only to enlarge their shipment capacity but also dictated them to locate refineries closer to the product markets to measure up to the growing demand of population. This idea of more efficient distribution of crude oil to the points of consumption let to the appearance of mammoth tankers having more than deadweight tons of 30,000 which further drive down the per-unit cost of intercontinental energy transportation (pp. 6-7).

According to the United Nations' "Report on Review of Maritime Transport" presently myriad trends are restructuring global maritime transport and integrating

countries into new emerging system of international transport and trading network. Two trends of them are worth mentioning: first, recent economic growth of countries have increased their merchandise trade and demand for maritime transport services; secondly, greater share in maritime business of developing countries has demanded improved specialization in the supply of maritime services (2012, p. 6).

As a consequent, over the years we have seen a number of developments in global seaborne trade trends i.e., containerization to deregulation and greater participation of private sector to geopolitical transformation (UNCTAD, 2013). Moreover, economic globalization in manufacturing activities, an expansion in supply chain and intraregional trade have further intensified. Maritime transport is a part and parcel of international logistics accounts for 80 percent of total global trade volume (p. 5). Freight movement uses multimodal transport systems for physical continuity. In all this, shipping remains a key factor in global international trade. Progress and developments of international seaborne trade and shipping is largely influenced by global macro-economic conditions. As demonstrates in the Figure 3.1 that there is a close connection between the World Gross Domestic Product (WGDP), seaborne shipments and world merchandise trade. The figure reflects that the globalization of production processes and expansion of global supply chains, merchandise trade has grown worldwide much faster than GDP.

Figure 3.1: Close Associations between WGDP, World Seaborne Trade and Shipment (1975-2012).



Source: (UNCTAD's report "Recent development & trends in international maritime transport, 2013, p. 5).

The UNCTAD's report "Recent developments and trends in international transport" reveals that the world seaborne shipments have grown from an annual average rate of 2.6 billion tons in 1970 to 8.4 billion tons in 2010 and in 2011 it has increased to 8.7 billion tons (2013). The report also suggests that growth in dry cargo volumes accounts for 5.4 percent, containerized trade for 8.6 percent and five main bulk commodities namely iron ore, coal, grain, bauxite and alumina and phosphate rock for 5.4 percent have been expanded over 2010. Seaborne trade is expected to further grow in coming years (p. 5). In 2011, global container trade was estimated at 151 million twenty-foot-equivalent units (TEUs), approximately 70 percent increase over 2010 (p. 6). The container shipping and port sectors are set to grow and invest significantly in larger container ships and in container port terminals across the world. Today, developing countries' contribution as larger stakeholders in both

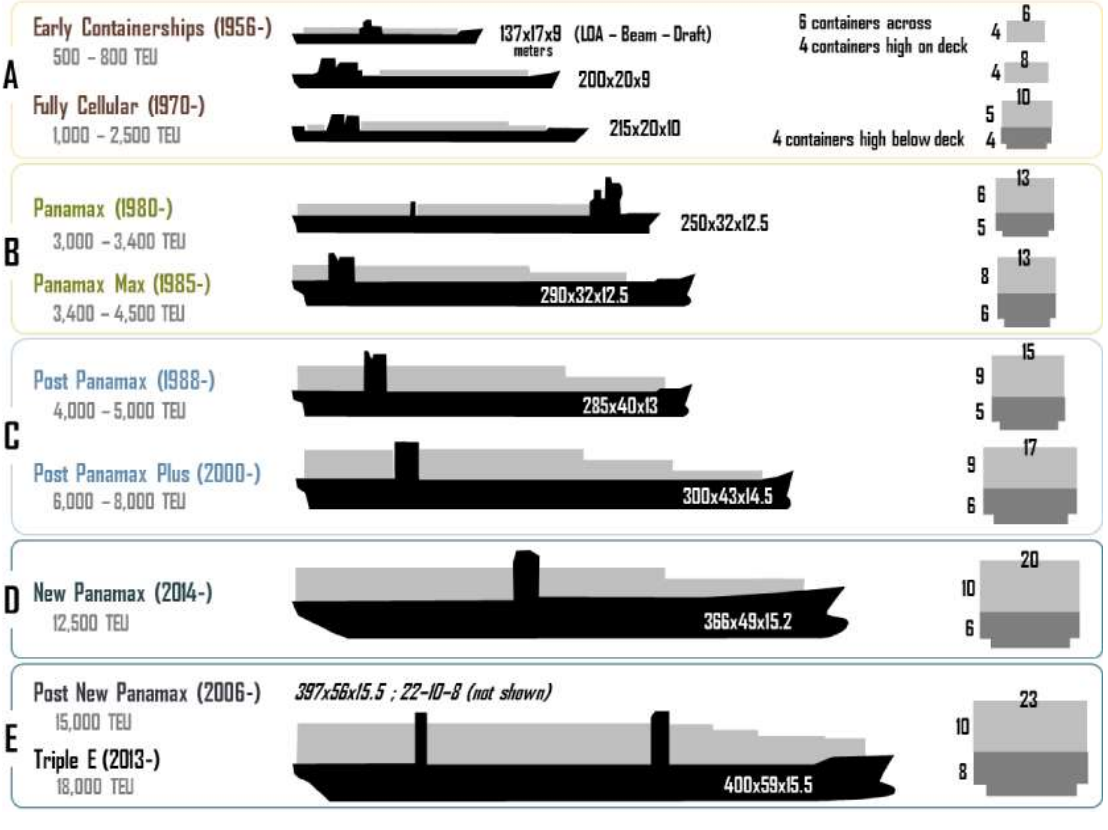
world GDP and merchandise trade have significantly increased world seaborne trade. According to the estimates, as reported in the UNCTAD publication, in 2011 60 percent of total international seaborne trade volume began in developing countries and 57 percent of the trade was unloaded in their territories (p. 7). Consequently, developing economies have become main global importers and exporters and currently Asian regions are far ahead in the global trade followed by Europe, American Continent, Africa and Oceania.

According to the statistics of Organization for Economic Cooperation and Development, Some 90 percent of the world trade by volume is carried by sea. Ever since 1970, world seaborne trade has grown by 3 percent annually to approximate 8.4 billion tons in 2010 (UNCTAD, 2013, p. 5). It is estimated that tempo of world seaborne trade would continue to grow by 36 percent in 2020 and would double by 2033 (p. 12). According to a recent report released by the University of Strathclyde and Qinetiq that World seaborne trade will be reaching between 19 and 24 billion tons a year by the end of 2030 compared to the current 9 billion tones (Global Marine Trends, 2030. p. 83). The report further reveals that China will consume three times-as-much oil compared to its current consumption and 60 percent of the world's coal, will be the focal point for maritime trade business (p. 38).

The above mentioned surge in the global seaborne trade calls for extraordinary measures from all littoral states to uplift their ports to facilitate mammoth sips into their territory. Though some littoral states of the world have brought about

structural development of their ports by increasing their ports capacity yet they are unable to facilitate trading through mammoth ships. Actually, with the induction of 4th and 5th generation of containerships, a capacity of the ship from the range of 11,000 to 14,500 TEUs and up to 18,000 TEUs, specific routes and ports could only be used for such service and the service is limited to routes between Asia and Europe, see Figure 3.2 and 3.3 below for details. Keeping in view the close proximity to the world oil supply channels, reviving economies of South Asia, diversify markets of Middle East and energy rich CARs, emergence of Gwadar in the region with a capacity to cater mammoth containers and provide a conduit to the regional states including China is inevitable. The port is a deep sea port with a capacity to attract large trade volumes (Jehanzeb, 2007, p. 89)

Figure 3.2 Evolution of Container Development. (Sizes are in meters).



Source: (Ashar & Rodrigue, 2012).

Figure 3.3. Modern Mammoth Ship.



Source: (Notteboom, 2009).

3.2.2. Role of Seaborne Trade in Economic Growth

The 21st century has brought about a visible ideological shift to enhance international trade through economic integration on the part of many economies which previously advocated and pursued policies of self-sufficiency and protection of their domestic markets (Nawaz, 2004, p. 25). In this century of globalization, access and exponential trade through the sea has become very easy and cheap (Tangredi, 2002, p. 4). Therefore, regional economies have come together in some type of partnership to foster trade and development through integration with the global economy (United Nations Economic & Social Commission for Asia & Pacific [UNESCAP], 2004, p. 4). In the wake of World War II, growth and expansion of seaborne trade has emerged as one of great success stories. Its growth from 1950 to 1997 has been from 0.55 billion tons to around 9 billion tons and in the post-war economy shipping sector has emerged as one of fastest growing

sectors in the world (Stopford, 1997, p. 226). The global container trade's growth, as linked with the growth of the economy, has considerably surpassed the pace of maritime trade expansion as a whole (UNESCAP, 2004, p. 15). As an instance, while total maritime trade volume expanded about an average of 3.3 percent annually from 1987 to 1999, the containerized cargoes progressed at growth rate of 8.3 percent per annum over the same decade/period and as a result 160 percent in total maritime container movements grew (Nawaz, 2004). As a result, frequent containers operated in the world's ports grew at a faster rate of 9 percent (p. 14). J.R. Hill emphasis in his book "Maritime Strategy for Medium Powers" that seaborne trade has a substantial contribution for economic growth and acts as a catalyst for development and modernization (1986, p. 13). He further argues that majority of the developed economies seaborne trade constitutes about 10 percent of the national income (p. 15). So far as Pakistan is concerned, seaborne exports make up over 17 percent of the country GDP (Nawaz, 2004, p. 14). The recent ministry of finance statistics reveal in the "Economic Survey 2012-13" that the exports for fiscal year 2012-13 remained at $12.1 billion, whereas imports remained at $12.8 billion under the period in discussion. Overall, the whole trade volume generated $24.9 billion, equal to approximately 36.3 percent of the GDP (Economic Survey, 2012-13, pp. i-xvi).

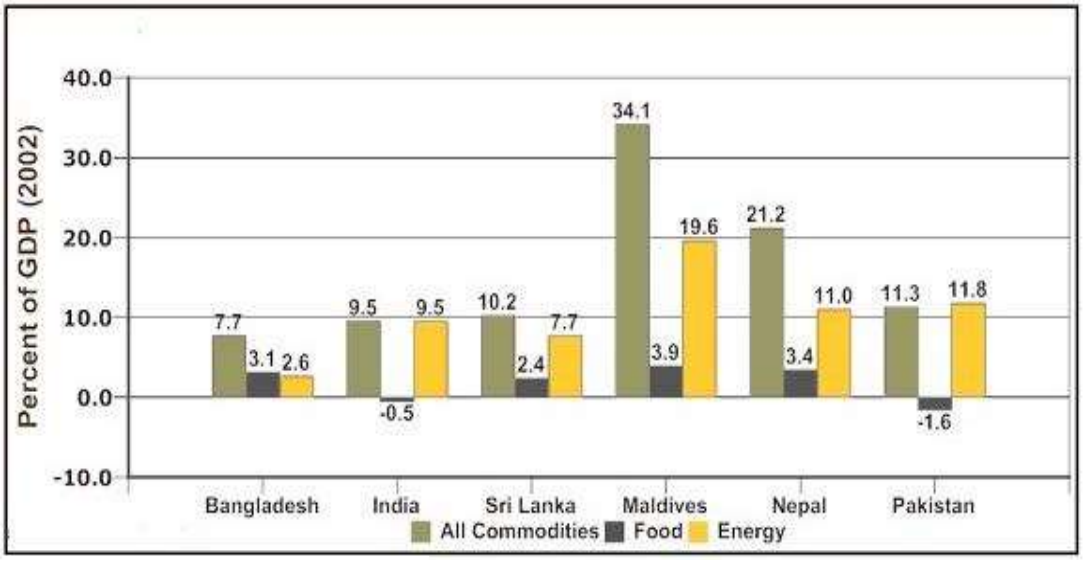
If we put Pakistan into this scenario, seaborne exports contribute 17 percent of the GDP. Martin Stopford argues that the size of trade volume of countries varies ranging from few hundred thousand tons to Millions of tons (1997, p. 250). There are many factors which determined the size and volume of the seaborne trade of a

country. The country's economy is considered one of the main factors which determines size and volume of its seaborne trade. Evidently, the big economies always generate large amount of trade as compare to progressing economies. It has been observed that is a dynamic relationship between trade and country's GNP. The country's economy progresses if its trade increases (Stopford, 1997, p. 250).

Empirical studies reveal that there is a very positive and constructive relationship between trade and growth and seaborne trade has an important impact on development and growth of the national economy. (Frankel & Romer, 1999, p. 379) According to research of Bleaney and Greenaway (2001); Mendoza (1997); (2001) and Blattman (2003), a development in terms of trade helps increase investment and thereby improves economic growth. To reflect a close connection between seaborne trade and economic growth, Mendoza analyzes the effects of trade on economic growth by sampling 40 countries out of which 9 are industrial while the rest 31 countries are developing economies and concludes that trade determines economic growth and vice versa (1997). Another research conducted by Kipici (1996), says that country's real income level rises when its trade improves which results in the trade balance. The exports of developing countries mainly comprise of commodity products which require more openness from states to world trade and a positive change in the states' trade leads to a positive change in their economies (Broda & Tille, 2003, p. 2). In similar research conducted by Srinivasan and Bhagwati (1999), they also support that trade creates and even sustain higher growth (p. 6).

Nishat Fatima (2010) explains how trade affects economic growth as it is evident during surge in global commodity prices, South Asia suffered a colossal loss of income from a severe term of trade shock (p. 6). The region witnessed substantial losses ranging from 36 percent of GDP for the tiny Island country of Maldives to 8 percent for Bangladesh as depicted in figure 3.4. On the food account, except Pakistan and India which are considered rice exporting countries, almost all other South Asian countries faced a substantial loss. Similarly, if we analyze the impact of trade of G8 countries on their economic growth, we will notice that these 8 most developed countries with 14 percent of the global population representation, account for almost 65 percent of the world's GDP (Fatima, 2010, p. 6-7).

Figure 3.4. Terms of Trade Loss as % of GDP for South Asian Economies



Source: (World Bank, 2008).

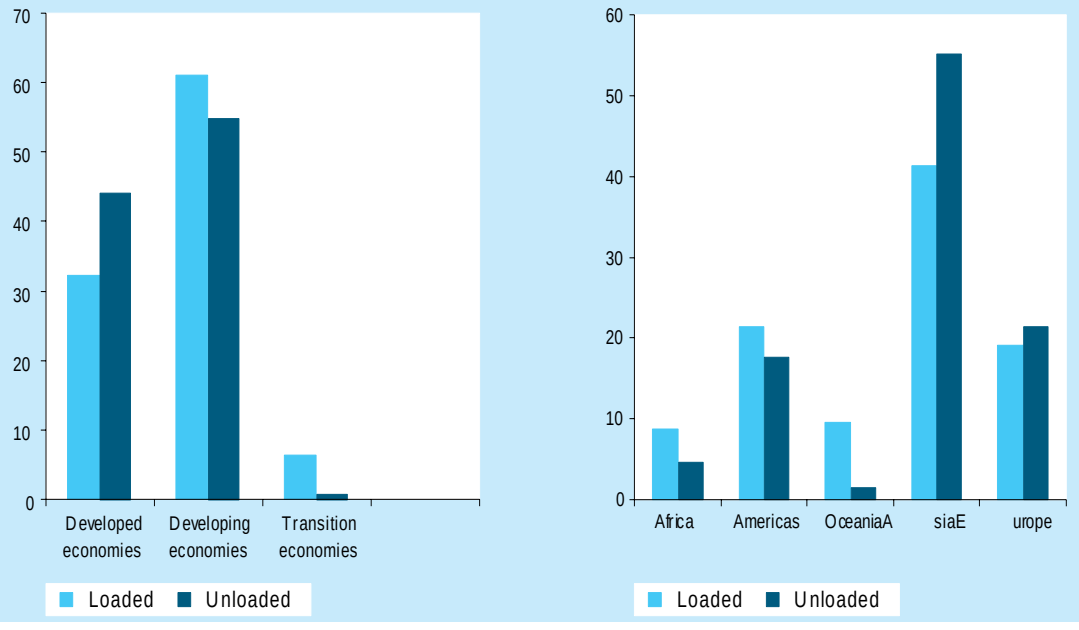
In the recent times, world seaborne trade has experienced a positive turnaround in demand in 2012 and ship industry has considerably brought itself to the worldwide

standards of macroeconomic conditions (UNCTAD, 2011, p. 7). According to estimates as cited in Review of Transport 2010, world seaborne trade in 2010 and 2011 expanded and helped recover the loss of previous years (p. 8-9). The report suggests that by the end of 2011, world seaborne trade continued to be dominated by raw materials, with dry cargo and containerized trade which expanded by 8.4 percent. This growth has further stimulated investment and demand for raw materials. Size and volume of oil trade also increased by 4.2 percent in 2009 due to expanding energy demand in the developing economies of Asia. Developing economies have remained the main trading areas with 60 percent, developed economies maintain the share of total goods loading and unloading to 34 percent and transition economies account for 6 percent of goods loading and unloading (p. 7-9). See ffigure 1.3 below.

The United Nations' Review of Maritime Transport (2010) highlights that the contribution of world regions to the world seaborne trade volumes is being dominated by the emerging developing economies of Asia. Asia is the leading region with 40 percent loading and 55 percent unloading of total goods. As shown in Figure 3.5 other loading areas are placed in downward order including the Americas (21 percent), Europe (19 percent), Oceania (11 percent) and Africa (9 percent) (p. 12). This trade expansion of developing countries reflects that developing countries are more inclined to world trade than rest of the world. This trend of trading has further promoted export-led economic growth strategy in most of the developing countries which has helped further export expansion. A fast

growing middle class market of Asia and pressing demand for diversified consumption goods have further promoted world seaborne trade.

Figure 3.5. World Seaborne Trade by regions – 2009. (Percent share in tonnage).



Source: (UNCTAD, 2010. p. 12).

3.2.3. Role of Sea in Economic Growth

According to (National Oceanic and Atmospheric Administration (NOAA), the ocean and sea cover 71 percent of the Earth's surface and occupy 97 percent of the world's water (Alldredge, Bergman, Cava, Chen, Cherrier,….Schoedinger, 2013). It is composed of interconnected physical components which include the seabed, coastline, its subsoil, sea surface, the water column and overlying atmosphere, ecosystems, abundance of marine life and habitats. In the modern world, importance of Marine sciences and the interrelated disciplines of Oceanography have widely been recognized to derive benefits from the coastal and offshore

maritime areas. There is a captivation of marine sciences for research institution and mining companies as more new resources are being discovered to the benefit of mankind. Marine resources are helpful in different economic initiatives of a country for example minerals as a raw material are used in manufacturing sectors, gas hydrate and energy for industrial and domestic use and fertilizer for agriculture sector. Polymetallic sulphide is another valuable mineral which contains high concentrations of lead, zinc, copper, manganese, iron, silver, barium and gold, abandoned on the verges of seamounts. Shahid Amjad in his research argues that the economic impact and contribution of marine mineral resources to the global economy is very significant (National Centre for Maritime Policy Research [NCMPR], 2007).

The maritime sector is considered indispensable for modern societies. However, due to lack of knowledge and ignorance, general public don't know the role and contribution it can play in the economic development of a country. Today, several million people are directly and indirectly involved in the oceans and seas related businesses. For many past centuries, fishing and shipping industry happened to be the main seaborne trade trends. Seafood as a main source of commerce and trade whereas shipping industry has long been used as a main means of sea transportation and communication link between littoral countries. Being the most economical and efficient source of transportation, sea borne trade of today is around 90 percent worldwide. The importance of sea commerce for the economic development of a country has largely been realized in the context of recent economic growth of developing economies achieved owing to their expansion in seaborne trade. Sea is

enormous area full of economic resources for countries to exploit. Apart from plenty of first-hand selling seafood and efficient means of transportation, sea is equally important to carry out a number of other economic activities for the development and prosperity of the country. Littoral states under their Exclusive Economic Zone (EEZ) and continental shelf can strengthen their economies through seaborne trade and exploitation of treasured natural resources from its subsoil such as oil and natural gas which are now possible due to emerging sophisticated technology to discover untapped abundance natural resources of the sea (United Nations Convention on the Law of the Sea, 1994, Part v, Article 55-75). As a consequent, the maritime sector has brought about both qualitative and quantitative growth with the expansion of offshore industry of oil exploration and production and the development of the cruise sector (World Bank, 2013, p. 93-105).

The modern world with latest technology has brought new prospects for the littoral states to extract vast ocean economic wealth. For many centuries, seafood was the only economic resource considered and utilized by the states. Presently, states apart from fish, are drilling to extract varieties of natural resources including minerals, oil and natural gas from their off-shores. The Indian Ocean has drawn the attention of developed countries due to abundance of bauxite, cobalt, tin, platinum, manganese and industrial diamonds. According to estimates, the Indian Ocean leads as 80.7 percent in the extraction of world gold, 77.3 percent natural rubber, 56.6 percent Tin, 28.5 percent Manganese, 25.3 percent nickel, 65 percent world oil and 35 percent natural gas located in the littoral states, passes through it (Indian Ocean Rising, 2012). All these are lucrative minerals for the industrialized world. These

items are of high value and are used in the production of weapons, airframes and other sensitive industrial products of the developed countries and support their economic base.

Expansion of seaborne trade and exploitation of subsoil of sea has made the sea more competitive in the present global scenario. Now world states have realized that the sea is the only place which guarantees their economic prosperity and ensures impregnable defence. The prospects of utilization of sea for both economic (civil) and defence (military) purposes have made it a priority area for the countries.

Moreover, rapid population growth of the world is depleting the available energy resources of the countries against estimated time period and this has alarmed the world to seek unhindered energy supply. This calls for an expansion in the extraction and production of offshore hydrocarbons. Today, 74 states worldwide are engaged in offshore drilling operations on the one hand and exploration, drilling and storage business is on the rise on the other hand. The expansion of cruise industry for its diversified survives including recreational vessels has a significant contribution in the world economy. These days approximately 50,000 merchant ships of over 150 states transport a variety of cargo internationally by over a million seafarers of diverse nationalities. Almost 4 million commercial fishing ships are engaged in the provision of various sea activities including recreational and tourist services.

Maritime sector is clustered and linked with many organizations and carry various operations such as the cruise and recreational sector, maritime transport, Navy engineering, merchant Navy, commercial fishing, shipbuilding, aquaculture industry, commercial ports, marine energy sources, maritime training academies, marine and ocean research centers and offshore oil sector, various professional services and trade unions. Together with these affiliated industries, maritime sector serves as a vital catalyst for global competitiveness and contributes for economic integration.

Maritime sector is, therefore, considered important to contribute in the economic development of modern economies and improve standard of living of their societies. In the changed global economic order, China, India and even the Eastern European countries have emerged as low-cost manufacturing countries in the world and have expanded their trade while the developed economies due to their high cost manufacturing and decreasing workforce are not yet able to meet the world market competiveness. As above referred, natural resources, energy, trade, various industries, research and leisure activities would continue to impact the economic scenario of littoral states in future to meet energy, food and other demand and supply requirements of the world.

3.3. Contribution of Seaborne Trade in the Economic Growth of Pakistan

3.3.1 Pakistan's Economy

Since the inception in 1947, Pakistan's economy has been passing through crisis that emerged one after another. To meet these extremely difficult challenges, all

governments have heavily relied on foreign borrowings to attain sustainable economic growth and development. In contrast, heavy doses of foreign aid further deteriorated economic growth and slowed down development in the country. After 9/11, Pakistan's support against war on terror resulted in an economic loss amounted to 67 billion US dollars (Khan, 2013, p. 37). Decades of political instability, rise in insurgency, global slowdown and constant shortages of energy, Pakistan has now been enlisted as a third largest debt-recipient country in the region (Irfan, 2014, p. A1). Its external debts have reached to 33 percent of the GDP. Pakistan's total external debt is amounting to $ 60.9 billion as reported in March 2013 (Pakistan Economic Survey, 2012-13). With myriad economic challenges, energy and water shortages, a growing population, rampant corruption and soaring youth unemployment, Pakistan is in a dire need of a viable strategy to put it out of the economic hole (Economic Survey of Pakistan, 2013, p. 108).

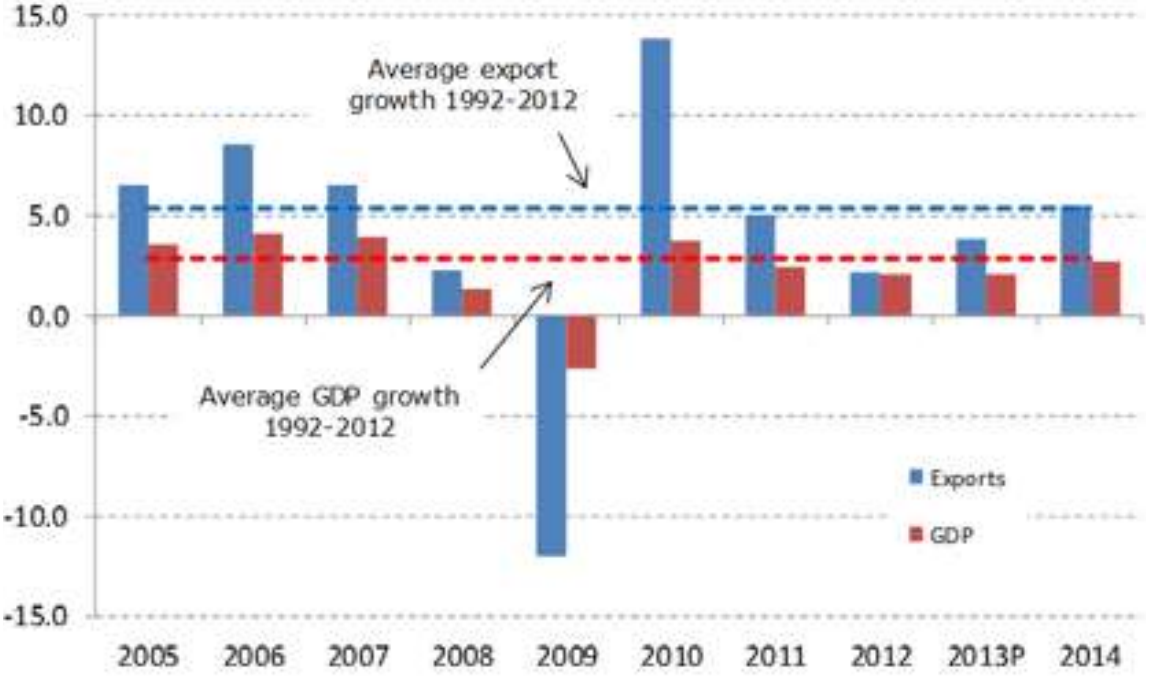
Internal security threats and unstable global financial situation is continuing to deteriorate Pakistan's macroeconomic environment and decline the export sector of the country. For sustainable economic growth of every country, a proper debt management is required in which balance of exports and imports is maintained to minimize foreign borrowings and to overcome fiscal deficit.

3.3.2. Dependence of Pakistan Economy on Seaborne Trade

The changing geopolitical setting in the region, Pakistan is left with no option but to depend heavily on the sea for its survival through economic development. The country's 960- kilometer extended coastline stretching to 200 nautical miles of the

Exclusive Economic Zone (EEZ) becomes the lifeline and bedrock of country's national economy as 95 percent of its trade and 100 percent of its oil imports are routed through sea (Hali, 2012, para. 1) In Pakistan, it has been observed that in normal circumstances, seaborne trade grows usually around twice that of GDP, (Economic Survey of Pakistan, 2012-13, p. 101). See figure 3.6.

Figure 3.6. Growth Rate of Trade and GDP.



Source: (Economic Survey of Pakistan, 2012-13, p. 101).

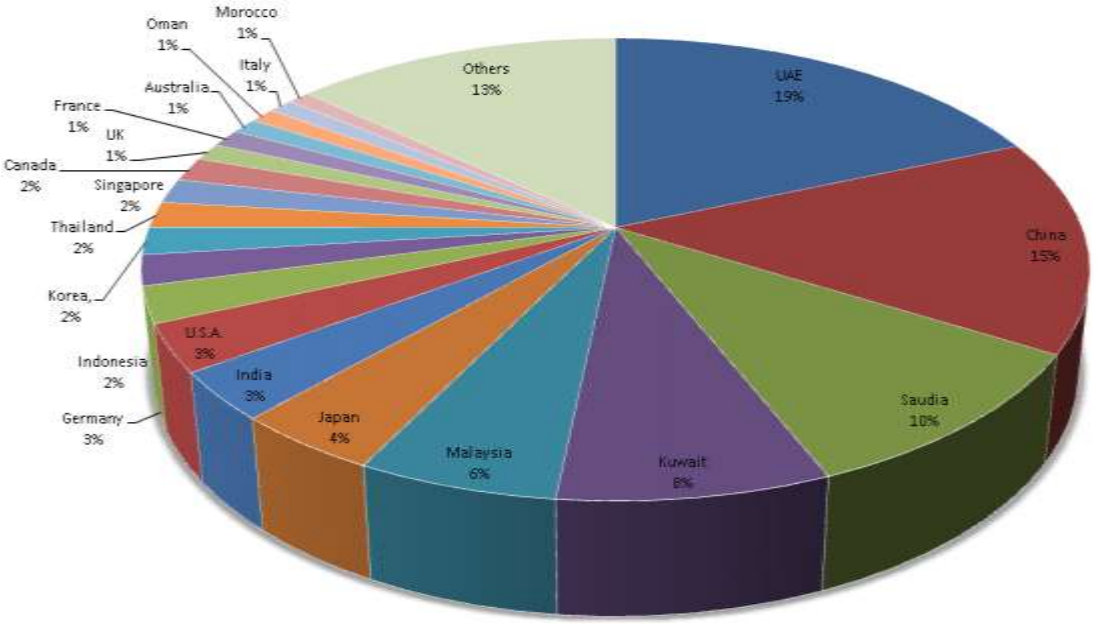
However, being an important maritime state, policy making circle in the country has not been able to perceive the significance of exploitation of sea and its subsoil resources to the benefit of its people on one hand and economic development of the country on other. Decades' ignorance and mismanagement could not allow the maritime sector of Pakistan to contribute towards overall economic growth and as a

result the domestic shipping and shipbuilding industries are in disorder, merchant marine is declining country is unable to exploit offshore natural resources and its trade is limited to fishing only (Nawaz, 2004, p. 30). Today, world powers take a broader spectrum of sea by encompassing both traditional factor of power and economic globalization to support and complement each other (Hill, 1995, p. 251-266). This era of economic globalization has not been fully realized by the planners in Pakistan who always considered maritime as one of the components of national military strategy (Hassan, 2005, p. 43).

The achievement of sustainable economic growth and development has always been a daunting challenge faced by the economist of Pakistan. For sustainable economic growth, government needs to develop its maritime sector on the global standards to diversify its economic base from agriculture sector to industrial setup. Shipping industry in a country can promote its country foreign trade by saving foreign exchange, reducing freight cost, earning revenues from profitable shipping business, creating employment opportunities and engaging various shipping services (Nawaz, 2004, p. 3). Presently, Pakistan's coastal economic activity is only confined to marine fisheries and absence of modern processing plants, fish is exported in raw form and could not contribute heavily in the economic growth of the country (p. 4). Likewise, lack of adequate technology and institutions, offshore energy and mineral resources have not been explored which would have changed the economic scenario of the country.

In Pakistan's imports, petroleum, machinery chemicals, edible oil, transport equipment, steel, iron, fertilizer and tea products account for 75 percent, approximately of total imports and machinery, petroleum, chemicals and related products alone cover 60 percent of total import over the last decade. These items are highly concentrated about 40 countries and the USA, Saudi Arabia, Kuwait, Germany, Japan, Malaysia and UK are main supplier to Pakistan (Economic Survey of Pakistan, 2012-13, p. 103). See Figure 3.7. Whereas main items of Pakistan's exports pertain to cotton cloth, cotton yarn, cotton knitwear, ready-made garments, bed wear, leather manufactures, surgical goods, footwear, Jewelry, rice and few others (Fatima, 2010, p. 10). These products account for 63.7 percent of total export and cotton alone contributes 51.4 percent (Economic Survey of Pakistan, 2012-13, p. 104). Pakistan's targeted exports of knitwear 13.9 percent, made up articles 8.9 percent, readymade garments 6.8 percent, cotton yarn 4.6 percent, towels 2.6 percent and export in other textile materials have received 17.2 percent which is a double digit growth over the period. It has been revealed in the economic survey that Pakistan's exports are routed with a number countries however, 50 percent of its exports are very much confined to few countries namely USA, Japan, Germany, Hong Kong, UK, Saudi Arabia and UAE. While US, being main exporter, accounts for 15 percent of its exports followed by Germany, UK and UAE. Apart from these markets, Pakistan's geographical diversification in export is also quite visible over the years (Economic Survey of Pakistan, 2012-13, pp. 104-105). See Table 3.1.

Figure 3.7. Pakistan Imports between 2011-2012.



Source: (Economic Survey of Pakistan, 2012-13).

Table 3.1 Pakistan's Major Export Markets

Major Export Markets	**(Percent Share)**					
Country	2007-08	08-09	09-10	10-11	11-12	12-13
USA	**19.5**	**18.9**	**17.4**	**16.0**	**14.9**	**15.1**
UK	**5.4**	**4.9**	**5.3**	**4.9**	**5.0**	**5.4**
Germany	**4.3**	**4.2**	**4.1**	**5.1**	**4.5**	**4.1**
Hong Kong	**2.7**	**2.1**	**2.2**	**2.0**	**1.7**	**1.6**
U.A.E	**10.9**	**8.2**	**8.9**	**7.3**	**9.7**	**10.1**
Sub-Total	**42.8**	**38.3**	**37.9**	**35.3**	**35.8**	**36.3**
Other Countries	**57.2**	**61.7**	**62.1**	**64.7**	**64.2**	**63.7**
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: (Economic Survey of Pakistan, 2012-13).

During 2012-13, Pakistan's trade statistics reflect the spillover effects in the growth of exports (Economic Survey of Pakistan, 2012-13, p. 102). Over the years, the US and EU have been the most favorite destinations for Pakistan's export products and these two huge markets absorbed Pakistani products to around 23 percent and 31 percent respectively. Whereas China has emerged a 3rd suitable destination for Pakistan's export with an 11.5 percent share and Afghanistan, UAE, Turkey and Oman are also very important destinations for Pakistan's export products. The future seaborne trade in 2024/2025 has been estimated from the demand of general cargo, liquid bulk cargo and dry bulk cargo perspective as shown in high, medium and low growth scenario in the below table 3.2 (Pakistan Transport Plan Study in the Islamic Republic of Pakistan [PTPS], 2010, p. 4).

Table 3.2 Economic Development Indicators of Pakistan

High Growth Scenario							
		Import (1000 TON)			Export (1000 TON)		
Year	GDP/ Rs billion	Dry Bulk	General	Liquid	Dry Bulk	General	Liquid
2000	4,918	5692	6773	19,571	2061	4,107	1,950
2005	6,559	6441	11303	25241	2604	6714	2764
2010	9,513	9256	18314	33393	3944	10219	3459
2015	13,721	13302	29675	41423	5853	15555	4144
2020	19,790	19117	48082	49452	8606	23677	4829
2025	28,543	27473	77906	57482	12576	36040	5514
2030	41,168	39482	126230	65512	18303	54858	6199
Medium Growth Scenario							
		Import (1000 ton)			Export (1000 ton)		
Year	GDP/ Rs billion	Dry Bulk	General	Liquid	Dry Bulk	General	Liquid
2000	4,918	5692	6773	19,571	2061	4,107	1,950
2005	6,559	6441	11303	25241	2604	6714	2764
2010	9199	8276	16908	32658	3802	9412	3396
2015	12604	10633	25292	39561	5346	13196	3985
2020	16867	13662	67833	45949	7280	18501	4530
2025	22045	17554	56593	51818	9629	25939	5031
2030	28135	22554	84655	57166	12391	36366	5487
Low Growth Scenario							
		Import (1000 ton)			Export (1000 ton)		
Year	GDP/ Rs billion	Dry Bulk	General	Liquid	Dry Bulk	General	Liquid
2000	4,918	5692	6773	19,571	2061	4,107	1,950
2005	6,559	6441	11303	25241	2604	6714	2764
2010	8531	7619	14960	31003	3499	8283	3255
2015	10379	9011	19799	35302	4337	10218	3622
2020	12627	10659	26203	39602	5357	12606	3989
2025	15363	12608	34679	43901	6598	15552	4355
2030	18691	14913	45897	48200	8108	19187	4722

Source: (PTPS, 2010).

3.4 Shipping Industry and Economic Growth

3.4.1 Role of Shipping Industry in Economic Growth

Economic growth is the only way to uplift people's standards of living and reduce poverty in the developing world as it creates employment opportunities for people who further contribute to the nation's income. But today, many developing countries, with weak institutions, poor infrastructure, absence of law and order, poverty, lack of access to financial services, undemocratic and corrupt governments find themselves in a bitter situation to stimulate and sustain their economic growth.

Frankel (1987) states that port and sea shipping business are contributing substantially for economic and business related growth opportunities for developed as well as for developing countries (p. 30). Moreover, in his research, Frankel reveals that shipping, economic growth and the health of the shipping industry have a substantial impact and contribution on the country's development. Geo-strategic location with connectivity capability of a country to connect to its trade partners through its regular supply capacity and shipping services along with trading routes enable it to trade over oceans with its partners for economic growth. Lovett (1996) in his book contributes to state that for a successful economic sustainability, all nations, therefore, heavily rely on maritime transport and a healthy merchant marine promotes and develops a profitable trading ventures and a national outreach to get the best available products and technology (p. 317).

Martin Stopford (1997) in his book 'Maritime Economics' highlights that since the post-world war II, the dynamics of the shipping industry has entirely changed. Therefore, the world's economy has become more vibrant and dynamic than ever before. With the mechanized bulk transport and containerization facility and services, it has further excelled economic activities with low costs transport and opening up the global markets. There is a close link between industrial shipping and intensely competitive markets which makes shipping one of the world's most successful businesses (Stopford, 1997, p. 1). The importance of shipping in the economic development is not new. Adam Smith (1776) in his master piece "The Wealth of Nations" argued that shipping acts as a catalyst to economic growth (ch.3). He further argued that industrialization of a country could never be achieved without linking the world states as the country's small market would confine of limited resources. With cheap and efficient transport, shipping industry allows specialization of business and brings fruitful competition among local industries.

According to the UNCTAD's report on "Review of Maritime Transport" global seaborne trade, a measure of demand for shipping , port and logistics services**,** rose by 4 percent in 2011, reaching a record high of 8.7 billion tons (2011, p. 45). It is expected to become double or triple by the end of 2020 as the number of containers handled in the world's ports increased from less than 100 million TEU in 1990 to more 506 million TEU in 2008 (UNCTAD, 2009, p. xiv). Clarksons (2013) reveals that world seaborne trade has expanded more than seven times over the last five decades and by the end of 2013 it is almost close to 9.9 billion tons (p. A1). The research further contributes that the world seaborne trade of all types was equal to

1.35 billion tons in 1963. Access to remote areas for raw material and even markets gradually became so economical and useful for world states for sustaining their economies. This phenomena with low transport cost altered altogether geographical trade dynamics. Ton-miles, being the standard measure of shipping demand because it reflects both cargo volume and voyage distance, was further improved. A great enlargement of carrying capacity was required (Clarkson, 2013, p. B1). To meet this fast growing seaborne trade, ship-owners enlarged their ship carrying capacity which as a result expanded global fleet of ships. The world fleet of all types of merchant vessel in 1963 was almost 145.9 million gross Tons comprised of 39,571 ships (Lloyd's Register statistics, 2013). Fifty years later, today fleet is 1,114.8m gross Tons with of 85,642 ships (Clarksons, 2013, p. B1). It is evident from the proceeding facts that global shipping industry has become a fascinating and impressive business of the modern era.

3.4.2 Benefits of Shipping Industry for Developing Countries

Potential benefits of shipping industries are many folds. As explained by Rab Nawaz (2004) in his thesis that generally developing countries invest in shipping industry to achieve five objects i.e., reduce freight cost, save foreign exchange, promote the country's foreign trade, achieve various benefits from shipping operations and generate employment in the area (p. 21). Nawaz further explains that investment in shipping industry also helps improve shipping operation services of developing with low cost freight cost in addition to earn revenues for the countries (p. 21). From defence perspective, the investment in national flag shipping also helps facilitate a country's foreign trade during times of emergencies

and even during war because many foreign owned vessels usually avoid their services in war zones or suddenly increase their freight rates to exploit the situation for their benefits. Shipping is a highly capital-intensive industry with modest direct employment creation effects.

Martin Stopford, in his book 'Maritime Economics' Second Edition (1997, pp. 4-9), presents following dynamics of shipping industry:

3.4.2.1 Low Cost of Sea Transport

The reliability and success of sea transport is associated with its low cost which has hardly increased over decades. In the wake of Second World War, the cost of sea transport was about $ 8 of transport from East Coast North America to Japan. From 1952 to 1995, $ 10.9 per ton was the average cost of the transport (Martin, 1997, p. 5). And during the oil embargo of 1971, the transport cost little fluctuated and went up to $ 2.1 per barrel. Overall, sea transport is the most efficient, economical and reliable source for trade.

3.4.2.2 Sea Transport Connects Regions

Being economical, deep sea shipping remains the only means of transportation between inter-regional and inter-continental landmasses. Presently, over 20,000 ships are providing low cost bulk transport services on main trading and traffic routes which connect major industrial regions of Europe, Asia and North America (Martin, 1997, p. 8).

3.4.2.3 Short Sea Shipping

Shipping provides short sea transport services within regions such as Rotterdam or Hong Kong. The service facilitates port to port service because these ships are normally smaller than their counterparts to carry cargos of grain, coal, fertilizer, steel, aggregates, clay, wheeled vehicles, containers and even passengers and are considered cost-effective (Martin, 1997, p. 9).

3.4.3 Potential opportunity of Shipping Industry for Pakistan

Pakistan can earn substantial net foreign exchange savings from shipping because the country has sizeable dependence on seaborne trade. As mentioned by Qureshi in his research that over dozen foreign shipping companies touch Pakistan's port every year and the country's annual freight bill to these companies reach around US $ 1.5 billion to 1.7 billion per year for executing its foreign trade (2008, p. A1). For a small economy like Pakistan, this net foreign exchange is considered a substantial depletion of foreign exchange reserves for the economy. Keeping in view the growth of the country's seaborne trade and also economy, the freight bill is likely to increase in the coming years (Nawaz, 2004, p. 38). Currently, Pakistan's national mercantile marine carries only less than 5 percent of the country's total foreign trade which is even far less as allowed and outlined by the UNCTAD under its convention on code of conduct for liner conference (UNCTAD's " Guidelines towards the application of the convention", 1984, pp. 11-13)

For national shipping industry in Pakistan, there are enormous opportunities for growth and development. Less focused and least priority on the government part on

shipping industry has made many workers unemployed and Karachi Shipyard and Engineering Works area a place of junkyard which used to be a main source of foreign exchange in late 70s for repairing and maintenance (Aslam, 2001, p. 30). Keeping in view the geo-strategic location of Pakistan, presence of institutional infrastructure for merchant marine staff training and shipping industry management are considered comparative advantages for investment in shipping sector especially in the newly Gwadar port. As the port's huge land can be used for the shipping setup to earn foreign exchange for the country on the one hand and save rising annual foreign freight bill. The investment in shipping sector will considerably reduce the problem of balance of payment deficit. Rab Nawaz in his research reveals that the development of shipping industry in Gwadar port will serve two objectives (2004, p. 40): Firstly, it will enhance transit trade emanating from Central Asia, Western China and Afghanistan and will bring bright prospects in maritime and coastal shipping between Gwadar and Karachi; Secondly, being a vibrant hub port, shipping industry will help Gwadar port emerge as a main trans-shipment port in the region. Moreover, the development in shipping service would also help generate feeder shipping services for Gwadar hub port to facilitate secondary ports in the region. With development of shipping industry, Gwadar port in the long run can emerge a leading port in the region to capture entire market in future.

3.5 Conclusion

As trade brings a greater economic integration among states which further contributes in raising income and prosperity in the country. Research shows that a country's seaborne trade is considered a key factor for growth to support its GDP and economic development. It is evident from the research that countries that achieve higher trade relative to GDP quantum increase in their productivity. It is a living fact that a developing country will be better off if it develops modern infrastructure to seek international market access.

Pakistan's economy is heavily dependent on seaborne trade and the country's seaborne trade grows usually around twice that of GDP as evident from the country's trade statistics which reflect the spillover effects in the growth of exports during 2012-13 (Economic Survey of Pakistan, 2012-13, pp.101-102). Being an important maritime state, Pakistan needs Gwadar port to fully exploit its subsoil resources and take full economic advantages of its 960-kilometer extended coastline stretching to almost 200 nautical miles of the EEZ which is the lifeline of the country's national economy. Development of Gwadar port on global standards will not only ease growing burden on the Karachi ports but will also help diversify the country's global trade to save foreign exchange, reduce freight cost, earn revenues and overcome fiscal deficit. To cater the growing needs of the future seaborne trade in 2024/2025, Gwadar port emerges as a promising development to take a broader spectrum of sea to support economic development in the country.

CHAPTER 4

GLOBAL TRADE EXPANSION AND ECONOMIC PROSPECTS OF GWADAR PORT

4.1 Introduction

Fast growing international economic development in recent decades is largely attributed to a mounting global seaborne trade and growth with reduction in trade barriers has further expanded cargo shipping as one of the largest and fastest growing economic sectors in the world (Grossmann, Otto, Stiller & Wedemeier, 2007, p. 226). In modern era of progressive global integration processes, seaports have appeared as prospective investments for economic growth.

In the modern economy, seaport is considered a key component for economic growth and development (Yoo, 2006). In majority areas of the world, seaports are established on the shore lands of cities and these lands are highly treasured in terms of its uses. The land is mainly used for marine terminal purposes but its other uses like tourism, recreation industries, residential, commercial, nature parks and commercial fishing industries are equally contributed in the economic development of the country (Talley, 2009, p. 02). It is because of this reason port land expansions are normally entrusted to governments and regulatory bodies to reconcile the interests of all parties competing for the land. Additionally, ports have contributed as the primary transshipment domestically and in foreign trade, as well (Boshken, 1982, p. 221). Therefore, growth and development of many coastal cities across the globe is attributed to the location and management of seaports (Oni, 2003). Moreover, ports stimulate and promote economic growth in a very sensitive socio-economic, cultural and political environment where they have to cope with numerous factors to achieve economic goals (Oni, 2003). The association between seaport and economic growth can be analyzed on the basis of dividends countries

accrue from seaborne trade. Theoretically speaking, seaport investment encourages competition on an international level as local industries promote efficiency, innovation and quality which lead to attract direct foreign investment into these local industries (Wisegeek, 2013, p. A1).

The splendid growth of the containers' traffic in the world seaports has developed a sense of realization among all governments to improve their seaports' infrastructure to attract and accommodate as much seaborne trade as possible. The infrastructural development would further require concerted efforts on the governments' part to streamline their policies to have ports efficiency for direct or indirect economic impact (Carlucci & Cira, 2009, p. 405). Explaining the effects of openness to global trade, Rivera-Batiz and Romer (1991) and Grossman and Helpman (1991) present below four different effects of international trade on the economic growth of a country (Ulasan, 2008, pp. 10-11):

1. **Communication Effect:** International trade provides a communication link with other countries that facilitate exchange of technology.
2. **Duplication Effect:** International trade also facilitates countries to interact with each other to invent new innovations and technologies and help avoid duplication of technologies and ideas.
3. **Allocation Effect:** International trade helps countries specialize products according to their comparative advantages as determined by prevailing factors.

4. **Integration Effect:** International trade integrates and increases size of the markets available to firms.

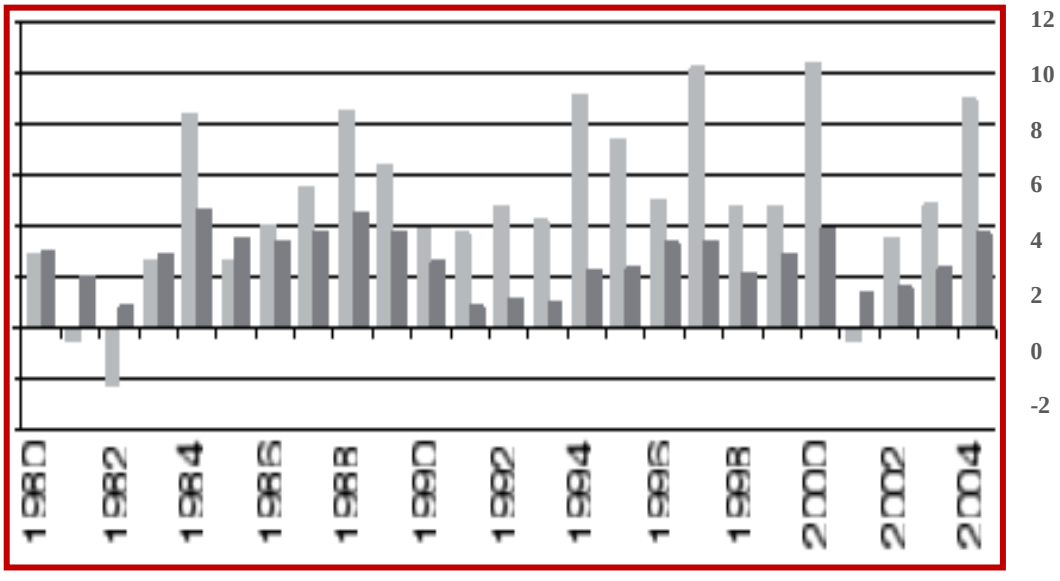
4.2 Relationship between Economic Growth and International Trade

International trade and economic growth of a country grow and develop together. International trade helps grow a country's economy in several ways including import, export, specialization, increased productivity and improved infrastructure. There are countries in the world whose economy solely depend upon international trade. For instance, some oil-producing countries entirely rely on their crude oil exports to sustain their nations. These states' economic plan mostly revolves around calculation and international expectations of oil business (Wisegeek, 2013, p. A1). Pakistan's agriculture sector is considered an important constituent of Pakistan's economy as it contributes 21 percent to the country's GDP (Pakistan Economic Survey, 2011-12, ch. 2, p. 17).

Since post World War II, the development of global merchandise trade grew at a remarkably dynamic rate and from 1950 to 2000 trade volume achieved 6 percent annual growth and the trend, with minor ups and down, has continued during the past decade. Economic growth is largely dependent on size and degree of trade. Comparing trade with the development of gross domestic product (GDP) reflects a close relationship between global trade and GDP. Moreover, seaborne trade in different products has a far-reaching impact on economic development over point in time than production (Fig. 4.1). Such tremendous progress in international trade

could be attributed to globalization and the intensification of global division of labour. (Grossmann, Otto, Stiller & Wedemeier, 2007, pp. 226-227).

Figure 4.1: Annual Change in World Trade Volume and GDP (Percent).



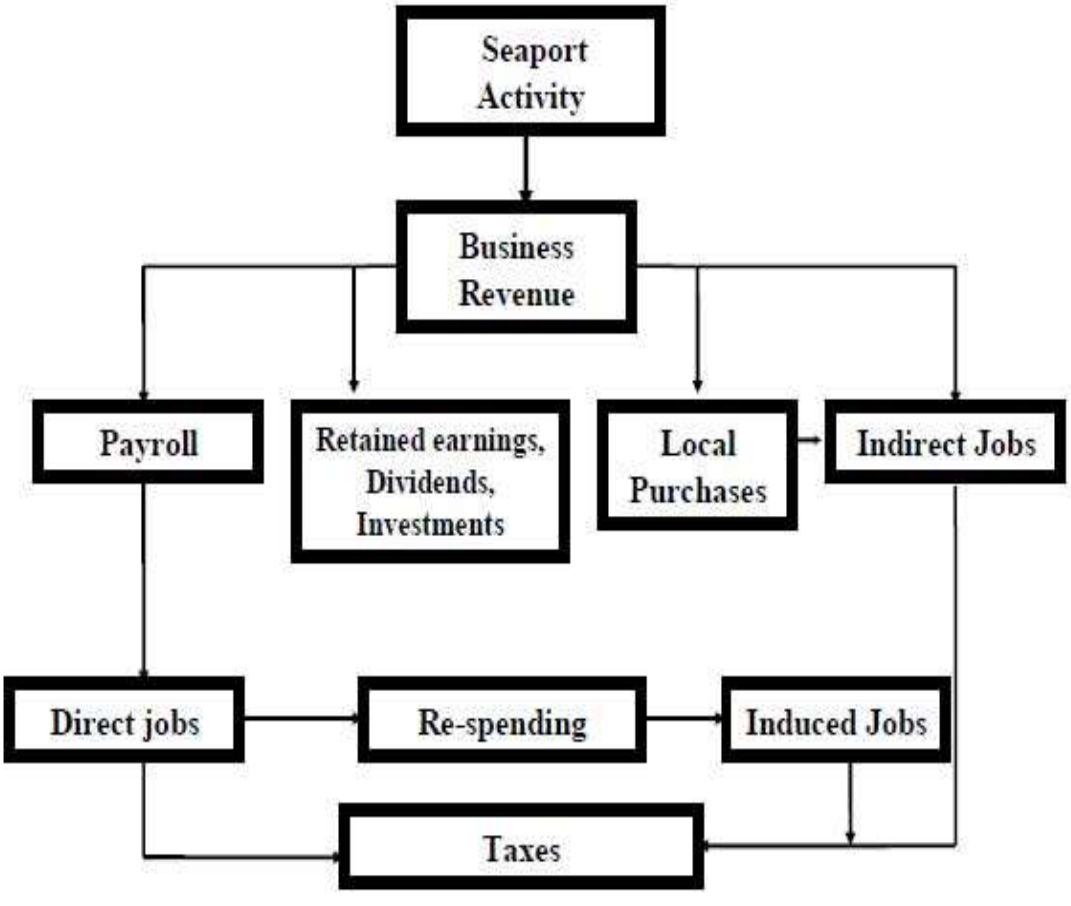
Source: (WTO Report, 2005).

4.3 Impact of Seaport Investment on Economy

Port economics revolves around the study of economic decisions and their consequences effecting port users, providers and other surrounding businesses (Talley, 2009, p. xix). A port is an "engine" for the economic development of an area by creating employment, labor incomes, business, taxes and conducive environment for investors for investment (p.7). Seaport activities give strategic dimension to the planning of the area located in the vicinity of the port and have far reaching effects on the economy in various dimensions (Carlucci & Cira, 2009, p. 407). Today, seaports are engaged in large scale operations and activities and have a far reaching impact and influence on environmental, economic and social sectors. The term "economic impact" means all the development occurred in the demand for

goods and services, contribution to tax revenue and employment that can be credited to the transport mechanism as manifested in the below figure 4.2 (Carlucci & Cira, 2009, pp. 405-425).

Figure 4.2: Flows of Economic Impact



Source: (Martin Associates, 2007)

As figure 4.2 graphically demonstrates that how seaport's operations affect the economic development at local, regional and national level. The figure indicates that the marine freight and ship activity initially produce business revenue to the firms delivering marine facilities. The revenue is applied to acquire direct jobs to pay stockholders, to facilitate customers with different services and for retained

earnings and to buy goods and services from local, national and also from international firms generating indirect jobs with the firms. Such businesses also create taxes from the business revenue (Martin Associates, 2007). In brief, to understand this complex structure of a seaport, aforementioned impact of seaport can be classified into four (Ferrari, et al, 2010, p. 11):

4.3.1. Direct Impact; with the construction, expansion and operation of a port, generation of employment and income is regarded direct impact. These jobs are normally held by employees of a company and are full-time paid workers. These employees get wages and salaries from their employers and spend a port of their salaries to buy goods and services while a port is given in payment of personal taxes and the rest salary is considered saving amount of the employees. These jobs and employees are largely dependent upon the operations of seaports and would face instant dislodgment if the seaport activity is ceased. These jobs perform different duties including work with trucking and railroads companies carrying shipment to and from the marine terminals, freight forwarders, steamship agents, warehouse operators, terminal operators, stevedores, ship chandlers, bankers and lawyers.

4.3.2. Indirect Impact; this kind of impact is generated by a certain chain of suppliers of goods and services. When seaport activities support national economy with expansion of local purchases by the firms, indirect jobs are created. These jobs are located in local office supply firms, parts suppliers, equipment suppliers, repair and maintenance services, consulting and insurance services and other related

business services. Suspension in port operations would result in dislodgment of all these income generation and employment.

4.3.3. Induced or Income Impact; income and employment generated by the spending of incomes by employees created by the direct and indirect effects are called induced impact. The jobs created by the maritime, real estate tenants and aviation are called induced jobs. These jobs are created locally and throughout the national economy due to purchases of goods and services by those directly employed. The employment consists of duties with retail stores, grocery stores, local transportation services, local construction industry, health care providers, local and state government agencies facilitating with public services and education to those directly employed and businesses giving professional business services. Suspension of seaport activities would also result in discontinuation of all these goods and services.

4.3.4. Catalytic Impact; when the port acts as a driver of productivity growth and attracts more firms, such employment and income generation is termed as catalytic or revenue impact. The revenue from the gross sale, business of seaport and related sector such as generated by tenants, real estate tenants and service providers, is called revenue impact. It is pertinent mention that such income does not necessarily confined within the local economy. Whereas the amount spent by local employees for certain purchases of goods or even for services or even spent in taxes is called direct, indirect and induced revenue which remains in the local economy's circulation. These firms are heavily dependent on marine terminals for flow of their

goods. These firms are engaged in the sectors of distribution and manufacturing including construction industry for consuming construction materials and moving material via deepwater ports; steel fabrication for using steel trading; distributers and retail outlets for handling imported containerized cargo; manufacturers for producing consuming containerized cargo and petro chemical firms for consuming dry and liquid bulk cargoes. All these firms create employment in various sectors.

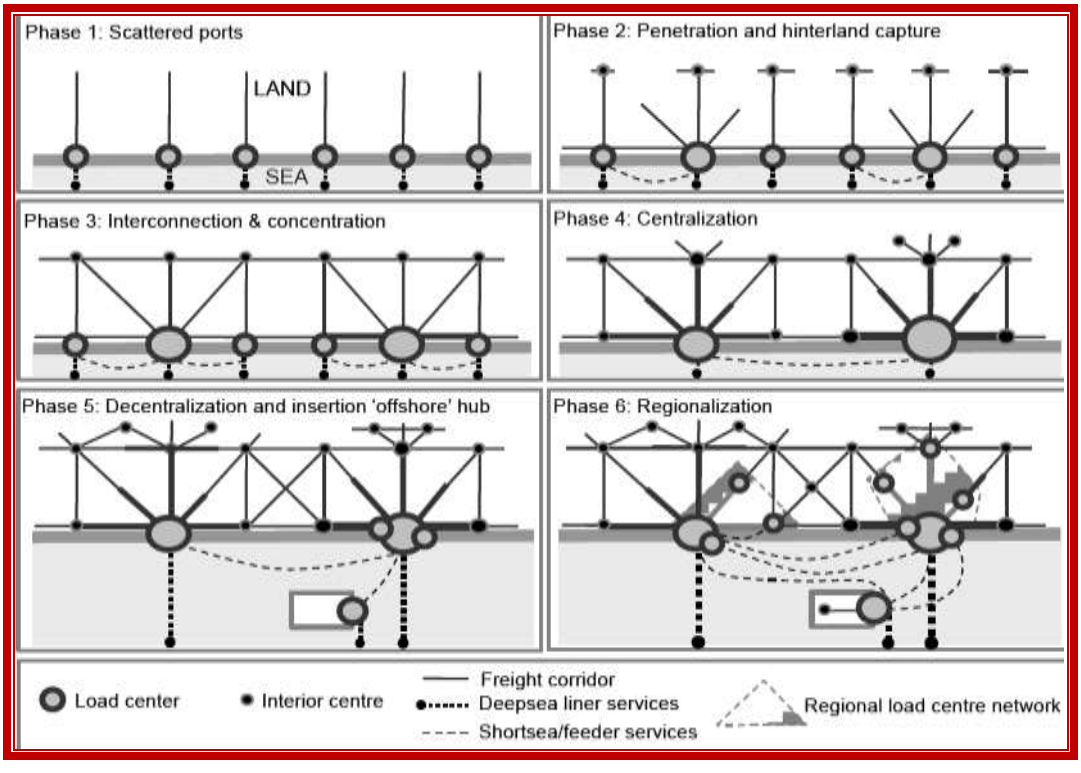
The development of seaports generates employment and business opportunities, GNP, land prices etc and thus encourage migration towards the area which in return supports economy at local, regional and national level (Musso et al, 2006). These prospective aspects of ports enhance confidence of investors and with their investment, seaports economics contribute in the economic development of country's economy (p. 171).

4.4 Impact of Seaport Investments on Regional Development

Seaport investment has many prospects in terms of economic growth, regional development, urbanization of underdeveloped land, poverty reduction and infrastructural development of the hinterland of the port. Seaports act as hub of the maritime sector of regional and nation's economy (Olukoju, 2004, p. 161). As seaport investment requires lots of funding and resources which governments cater resources in their long term economic planning for such mega projects accordingly. With the commencement of seaport development, private investors get involved in numerous projects which create opportunities of employment, infrastructure development, real estate development, import of technology and many others which

give rise to migration and land valuation. Overall, this results in the regional and economic development. Notteboom and Rodrigue (2005) present a spatial port system in which regional development has been linked with the development of seaport. In first phase seaport's development encourages other developmental work and after completion of seaport, ships, large vessels and cargos rarely visit in this phase. During this phase migration and urbanization gradually increases. In phase II, penetration and hinterland capture and economic activities in this phase increase. Feeder services and ships occur and business with the land is established. In the other following phase, interconnection and concentration is established. In this phase, link between each point is set up. Next phase is centralization in which seaports, harbours, regional centers and freight corridors are established. During this period, load flows to the major seaports. Decentralization is phase V which is also called insertion 'offshore' hub. Liner services are operationalized (See Appendix 10.4 for port terms). Phase VI is regionalization which finally gives improvement in regional load centre network, see figure 4.3 (Notteboom & Rodrigue, 2005, p. 300).

Figure 4.3: Spatial Development of a Port System



Source: (Notteboom and Rodrigue, 2005)

In short, with development of seaports, employment is required to run business activities in the region. Economic movements not only enhance investment on large scale but rural areas also begin to develop with the settlement of workers along with their families. With migration and urbanization, population need houses, civic facilities, transportation, local markets and other facilities which give birth to many companies like grocer, bank, telecommunication, super mart etc. As a result, seaport gives rise to economic movements which enable regional development (Caglak, Aydin, & Alkan, 2011, p. 337).

4.4.1 Seaport Investment Generates Income and Revenue

Wayne K. Talley argues that secondary dividends of seaport arise when its initial generated labor or business earnings from restaurants, entertainment, professional services and tax revenues are spent in the region in subsequent (2009). Such expenditures broaden the financial earning scope of the region while generating additional business earnings, labor incomes and tax revenues within the region. This process continues to second, third and further rounds of re-spending (p. 8). He further discusses that when the re-spending is exhausted, the entire business earnings, labor earnings and tax revenues in the region will have enhanced by more than their initial sums by a factor greater than one (i.e., by the multiplier coefficient). If the regional spending tendency from same income and earnings is 0.8 (i.e., $0.80 is spent out of each additional dollar of income and business earnings), the multiplier coefficient will be five for labor incomes and business earnings expenditures. Thus, the increase in total spending in the region will be the initial spending plus the secondary spending (p. 8).

For instance, U.S. seaports have been acted as a catalyst for the location of distribution warehouses by such retailers as Wal-Mart, Target and Home Deport within the regions of the ports (Button, 2004, pp. 77-95). A port in one region gives spillover effects on rest of the regions. A study by Cohen and Monaco (2008) of U.S. ports and states indicates that 1 percent increase in the infrastructure of ports in the neighboring states of a particular state leads to a 0.129 percent increase in the particular state's manufacturing costs, the rationale being that the neighboring states

draw away productive resources from the particular state, leading to higher production/manufacturing costs in the particular state. The study also concludes that increasing the infrastructure of ports in a particular state by 1 percent will decrease production/manufacturing costs in that state by 0.043 percent (p.258).

4.4.2 Seaport Investment Encourages Competition for Resources

For the construction of a seaport, a large amount of land, space, investment, infrastructure, network of communication and transportation are the main requirements. In addition, the modern seaport requires the services of talented work force, sophisticated technology, adjacent industrial zones and all other related basic production factors. If there is a constant flow of resources, then it generates an inevitable competition among the investors to occupy land, offices and all other areas for their certain businesses.

4.4.3 Seaport Investment Develops Infrastructure

Any seaport activity requires a complete infrastructure connecting port with the rest of the country for transportation of goods and services. The seaport infrastructure facilitates to generate a number of economic activities while benefiting people and firms across the country. The infrastructure further supports and strengthens demand for goods and services which create a constructive impact on the entire system of productivity and these activities around seaport infrastructure produce an economic growth at macro level (Carlucci & Cira, 2009, p. 405). In addition, a net economic bearing is accrued from the seaport business and related sectors which is classified as the dividends attained between the economic benefits and the costs of

the seaport business in the region and a financial impact, which emanates from the productivity of the seaport investments, consider as an income flow made for the investor subject, per monetary unit invested in the seaport infrastructure and in the seaport services (p.407).

The existence of seaport infrastructure presents an overall micro-economic impact on all activities generated from and culminated in port, in addition to its effects on incomes and distribution. Location and area for the establishment of a seaport is considered crucial to determine the viability and efficiency of the port. As, a well-connected and well-established seaport can not only reduce trade costs for the distribution of goods and services rather quick and efficient mechanism can also generate investment and new market opportunities to help grow economy (p. 422).

4.4.4 Seaport Investment Creates Employment Opportunities

Construction and consequent expansion of a port creates economic dividends for people residing in the surround areas of the port in particular and the nation in general (Talley, 2009, p. 8). During the time of construction of a port, local workers/labors are given preference over others being residents of the area. Likewise, local construction material like bricks, cement, steel, timber, concrete, stone and synthetics are also purchased for many economical reasons. During the operations of a port, two types of jobs are offered. One for the sector of port operators and users like shippers, ocean and inland carriers and other sector jobs are related to service providers like ship agents, ship repair, freight forwarding, marine insurance, towage service and pilot-age etc service providers. Port construction and

operation jobs are considered direct regional jobs generated by the port while jobs, labor incomes, business earnings and tax revenues produce by port construction and operation activities are called the direct regional benefits of the port. It is absolutely assumed that these benefits exist in the region only because of existence of the port.

4.4.5 Seaport Investment Promotes Economic Activities

Port investment contributes largely in the economic development of a surrounding region of the port in particular and the country in general. The port has a spillover effects on the industrial sectors associated with port and by developing these industries ports indirectly contribute to the national economic development. In the 3rd Asia-Pacific business research conference paper, following economic impacts of Gwadar port development on the industrial expansion have briefly been highlighted (Ullah, Berma & Shahadan, 2013, pp.4-6).

4.4.5.1 Impact of Port Industry on Regional Economic Development

The seaport industry creates a number of economic opportunities such as cargo handling, daily maintenance, port construction and operations etc. Ports offers different services required to run port which companies and cargo terminal operations normally perform. Industrial output value is generated through port service industry and port production activities. Investments on port industry will not only promote port activities but will also enhance productivity demand of different industries which will further contribute in the economic development of the region. Many economists consider port industry as a fundamental industry of a nation and even for a region to achieve sustainable economic development.

4.4.5.2 Port Industry Encourages Regional Industrial Upgrading

With the development of port industry, competition among several companies offering various services appears on the surface. As time passes, this competition among different companies become intense and several other companies and industries try to upgrade their services and facilities. Industries which are high-tech and high value-added normally attracted by the port and these industries contribute largely in putting regional industrial structure in order. This trend gives a positive development and promotion to the regional industries.

4.4.5.3 Port Development Fosters Clustering Port Industries

Companies, industries and firms prefer to operate in the seaport area to multiple reasons and purposes. Being closer to the port area, they have many comparative advantages such as easy access to main route and communication, proximity to marine terminals for flow of import and export products and low transportation cost. Moreover, port also connects regions and markets via sea and serves a hub port to assemble domestic and foreign advanced technologies, products, capital and talents in the surrounding regions of the port. Presence in the vicinity of seaport, industries create an industrial cluster around the port to work and operate efficiently to supplement each other in various fields for desired growth and results. This industrial cluster spread naturally in the entire region while taking real estate, hotel and other businesses to new heights. When port industry cluster attains a certain degree of development, it then helps promote further industry cluster as the available industries are felt short and limited to meet the emerging requirements

which could only be overcome with the development of new industries. Therefore, to meet the emerging needs, industries start practicing the outsourcing for optimal productivity which first take place in the adjacent areas situated on the main arterial roads and then expanded further to the surrounding region. All these factors help achieve sustainable economic development in the region.

4.5 Impact of Fish Industry on World Economy

Fisheries and aquaculture are one of the fastest-growing animal food-producing sectors in the world which is mitigating the demand of food of the growing population. This sector alone is a main source of nutrition and sustains the livelihoods of about 38 million people worldwide (Young, 2006). According to the report of the state of world fisheries and aquaculture 2012, the sector is contributing around production of 128 million tons of fish food to the 4.3 billion people worldwide which is an average 18.4 kg per person and 15 percent in terms of animal protein intake (Michel & Sticklor, 2012, p. 105). Moreover, on the economic side, the fish and aquaculture sector is equally playing an important role as this sector alone provides employment and income to more than 55 million people and 12 percent world's population directly or indirectly relies on this sector (FAO, 2012). Fish product is one of the most demanding and traded food commodities in the world. In 2010, global fish product reaches to 148 million tons, equivalent to US $ 217.5 billion record high.

According to the estimates revealed by the United Nations Food and Agriculture Organization (FAO) that the India Ocean is one of the largest fish production areas

which has enlarged its production from 861,000 tons in 1950 to 11.3 million tons in 2010 (Amitpandva, 2012). In comparison, the rest of oceans and seas are far behind in this sector and according to the estimates of FAO, Indian Ocean alone can mitigate the food requirements of the growing population (2012). The fisheries sector could help governments alleviate poverty and achieve food security in the world. Fisheries exports for many states contribute more in accruing foreign exchange than the states earn revenues from any other traded food items (FAO, 2004).

4.6 Role of Fisheries on Pakistan's Economy

Fish and seafood industry in Pakistan is worth $1.2 billion (Balochistan comprehensive Developemnt Strategy, 2013, p. 100) and exports alone earns worth $213 million per annum (Akhtar, 2010, p. 8). The economic contribution of fisheries and seafood industry in Pakistan though has not been substantial yet it is an important foreign exchange earner for the country that has a very narrow export base. Contribution in the GDP of Pakistan, Fishery products share 0.3 percent, though it seems very small support, yet it adds substantially to the national exchequer through export earnings (Economic Survey of Pakistan, 2011-12, p. 34). In Pakistan fisheries sector provides employment to around 379,000 fishermen and about 400,000 people are associated in the ancillary industries (State Bank of Pakistan, 2007). The Economic Survey of Pakistan (2006-2007) reveals that many families along the coastline of Pakistan in Sindh and Balochistan rely on fish industry as a main source of their livelihood as scarcity of irrigation water does not allow agriculture to grow for local inhabitants. Pakistan's coastal resources give it a

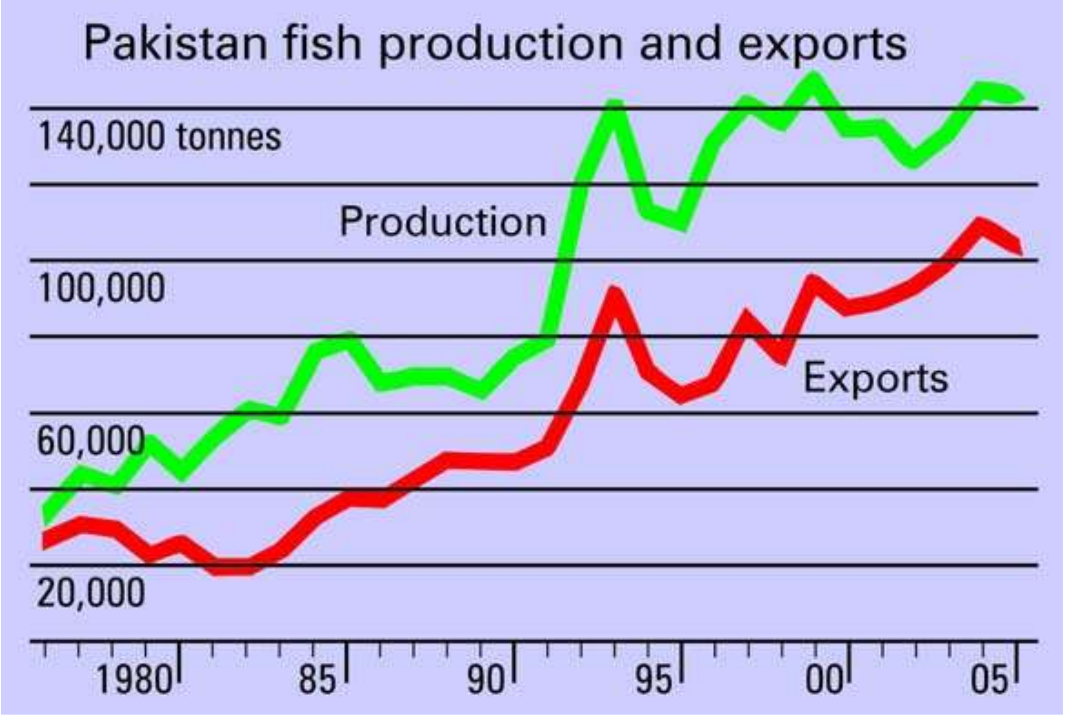
significant position in the fish and aquaculture market as the coastal area is spread 990 km with 0.290 million sq km of marine and extended shallow continental shelf which is approximately 8.6 million ha of inland waters (Pakistan's Mangrove for the Future [MFF], 2010, p. 7). In this modern era, Pakistan's fish industry still relies on undeveloped harbors with old techniques and inadequate facilities. According to the available data and statistics, (Mehdi, et al, 2009, pp. 21-22) the fishing, the catch of fisheries is distributed on three divisions, one is given to contractor, the other is shared with crew of the boats as compensation and the last part of catch is sold. In the fish business, a fisherman can hardly earn Rs. 10,000 per month working on an average vessel due to mismanagement and absence of government's regulatory role (p. 22). Moreover, mismanagement and absence of government's check, this rich coastline is being exploited by large fishing trawlers (p. 23) which caused over-fishing unchecked and is a detrimental to the economy of the region in particular and Pakistan in general.

Since 1976, Pakistan achieved 300 percent growth in both production and export of fish products (FAO, 2006). Though Pakistan extended its claim over the use of Exclusive Economic Zone (EEZ) up to 200 nautical miles yet government's poor management could not allow fully utilization of the area. Hence it is being exploited by foreign fleet and trawlers. In a recent report published by South Asian Partnership-Pakistan reveals the statistics that Pakistan contributes only 0.25 percent of fishery products exports to the world and only ¾ of fishery products are hardly exported. In the domestic consumption, the country is far beyond as each person is estimated to eat about 1.6 kg of fish in comparison with the world which

is 16.2 kg consumption per person per annum (2009). Despite repeated bans on the country's fishery products by European Union and weak methodology of fish processing, exports of fisheries have not reduced instead new markets have been explored to meet the set targets. By losing about $60 million European Fish market in Europe, as a consequent of EU's ban on Pakistan's fishery products on not meeting the standards of Sanitary and Phytosanitary (SPS) (The SPS are technical and regulatory standards set by WTO to ensure health and hygienic food products from exporting countries) the government still achieved $200 million exports in the same year of 2007-08 (p.23). Though Pakistan's export earning is little as compared to the other fish exporting countries, yet profit margins are higher in export of the product rather than domestic consumption (WB, 2008, 74).

Pakistan's main fish export's flow is towards China, Japan, Sri Lanka, the Middle East, Germany, the US and UK by contributing maximum average US$140 million exports annually as demonstrates in Figure 4.4 (WB, 2008, p. 73). Whereas other fish exporting countries like Thailand, Vietnam, India and Bangladesh are earning foreign exchange in return for fishery products about US$ 4Billion, US$ 3Billion, US$ 1.2 billion and US$ 350 million annually in that order (p. 73).

Figure 4.4: Pakistan's Fish Production and Exports



Source: (Mehdi, et al, 2009, p. 22)

4.7 Gwadar port and Economic Development

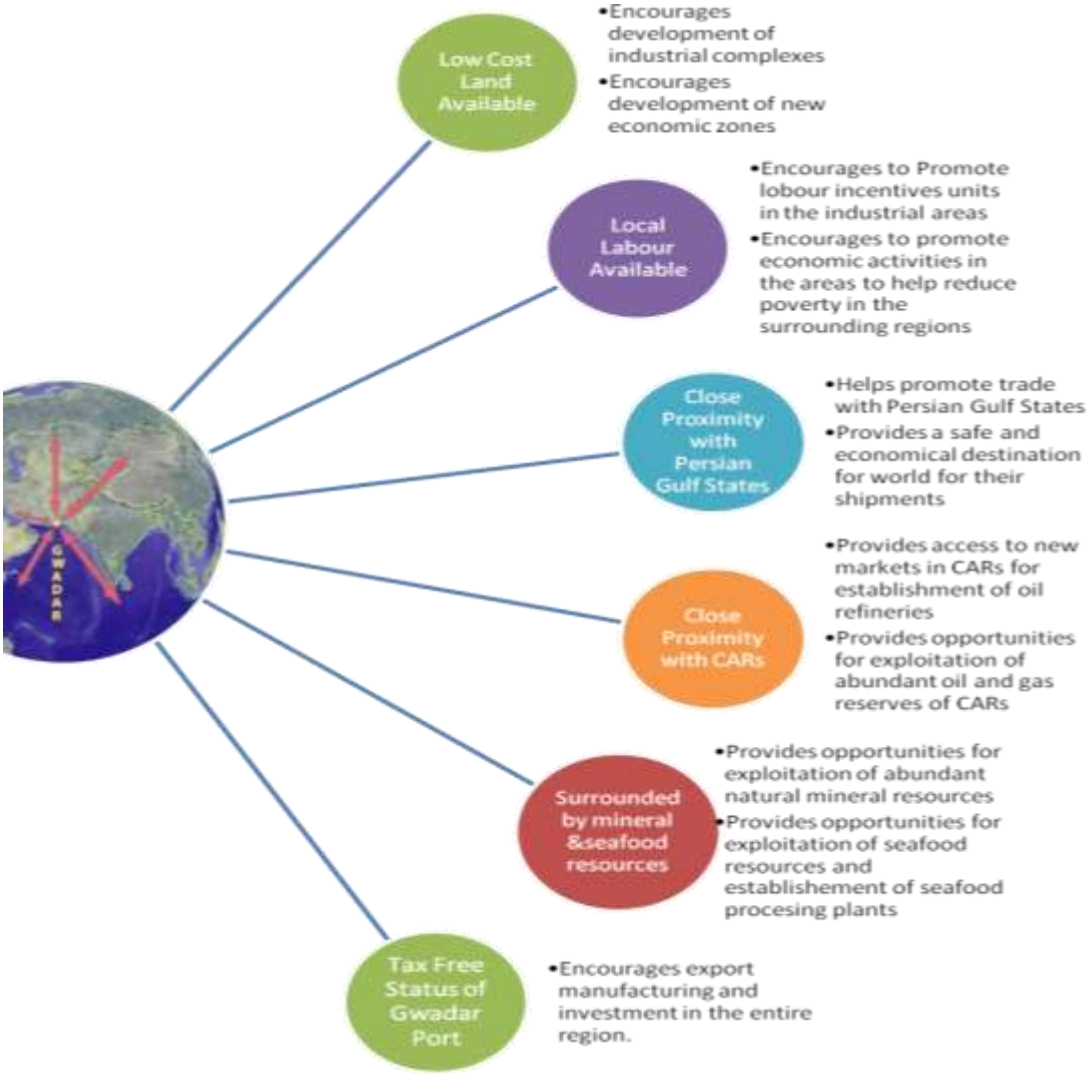
Keeping in view the above mentioned significance of seaports in the economic development, Gwadar port is equally considered important to play an incentive role in transforming the Makran Coastline, bringing about socio-economic development in Balochistan and ensuring Pakistan's global competitiveness. The government has already announced to develop an Export Processing Zone with tax exemption to support county's exports. Recently, the governments various initiative such as development of Coastal Highway, road and rail development projects, up-gradation of Gwadar Airport etc are some of the efforts which have encourage regional trade flow through Gwadar port and measures are underway to uplift Gwadar port at par

with international ports. The following prospects of Gwadar port in bringing about social-economic development is presented in detail.

4.7.1 Economic Impact of Gwadar port on Industrial Development

According to the master plan of Gwadar Development Authority, Gwadar port will act as a catalyst for the development of industrial cluster in the region. The plan includes establishment of a special economic zone, an export processing zone and a provincial industrial estate spreading over 4,000 hectares, 74 hectares and 3,000 acres of land, respectively (World Bank, 2008, p. 66). To meet the energy requirements of these industries, the government has planned to provide self-generated electricity and desalination as the country is already facing acute power shortage. The planning, zoning and development with huge investment has never been done in Pakistan to any other city or port development and this kind of mega investment has projected Gwadar as an emerging mega trade hub in the region like Dubai and Singapore (Mehdi, et al, 2009, p. 27). All these initiatives aim at turning this region into an industrial powerhouse of national importance. The availability of port enables sea access and brings prosperity through clustering of economic activities to the region (World Bank, 2008, p. 68). Development of port with economic zone and industrial estate not only bring close coordination with firms to produce greater production but the locality also attracts investors and local industries to shift to the port area. The below figure 4.5 reflects diverse economic impacts of Gwadar port.

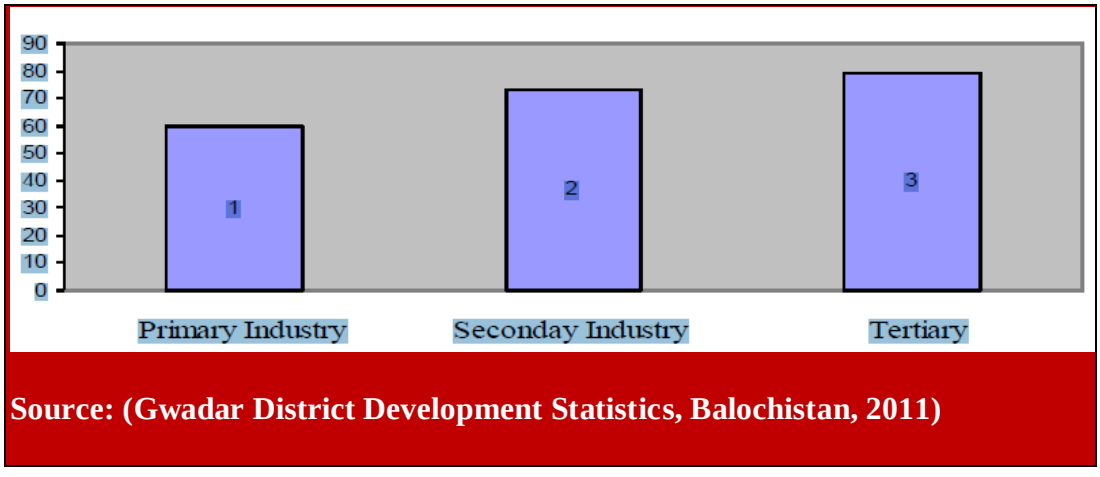
Figure 4.5: Gwadar Port Diverse Economic Impacts



Source: (Kaleem, 2014).

The Gwadar port development will have significant impact on the regional industrial development. According to Gwadar District Development Statistics, tertiary, seconday and primary industires relatively reaching 79.10, 73.29 and 69.05 scores, in that order (Figure 4.6).

Figure 4.6: Gwadar port's impact on industrial development.

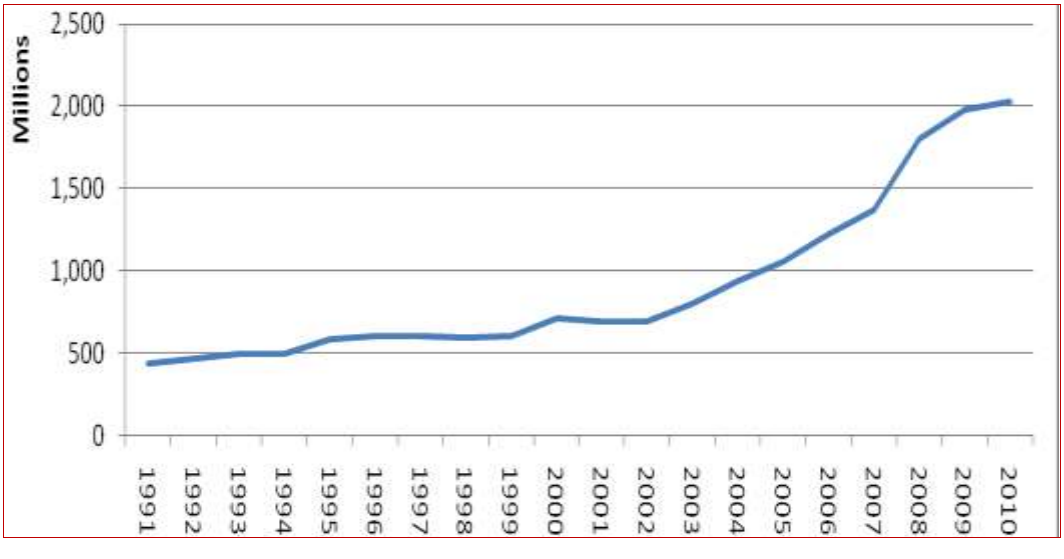


Source: (Gwadar District Development Statistics, Balochistan, 2011)

4.7.2 Economic Impact of Gwadar port on GDP and Industrial Output

Industrial development refers to shift in structure of the production of different industries and changes in employment (Ullah, Berma & Shahadan, 2013, p. 8). Industrialization brings about a positive contribution in reducing poverty, creating jobs and employment, bringing social-economic changes such as gender equality and improving education and healthcare facilities.

Figure 4.7: Total output of Gwadar region (1991-2010)



Source: (District development statistics, Balochistan, 2011).

The above figure 4.7., clearly reflects a mark improvement in the economic output in the region right from the commencement of the Gwadar port project in 2002. The figure trend analysis shows that Gwadar port will continue to augment business in the region.

4.7.3. Economic Impact of Gwadar port on Employment and Income

The construction of Gwadar port has far reaching economic impacts in terms of employment generation. As the Balochistan province is the least developed province of Pakistan and absence of mega projects has spread rampant unemployment. Since the construction of Gwadar port in 2002, regional employment graph has considerably risen as shown below in 4.1.Table. The table reflects that Gwadar port's construction has generated a number of economic activities in various sectors. All sectors employ a number of staff (Engineers, Doctors, trained staff etc) and labor to get their business flourished (Survey, Personal Communication, March 9, 2013). The progressing sectors include community welfare, construction, transport, communication, storage and hotel businesses except agriculture and fishing whose production output dropped due to scarcity of water and unavailability of sophisticated mechanism/processing to preserve seafood for export, respectively (Asif Bajwa, personal communication, December 18, 2013).

Table 4.1: Sector-wise Employment generation after Gwadar Establishment (%)

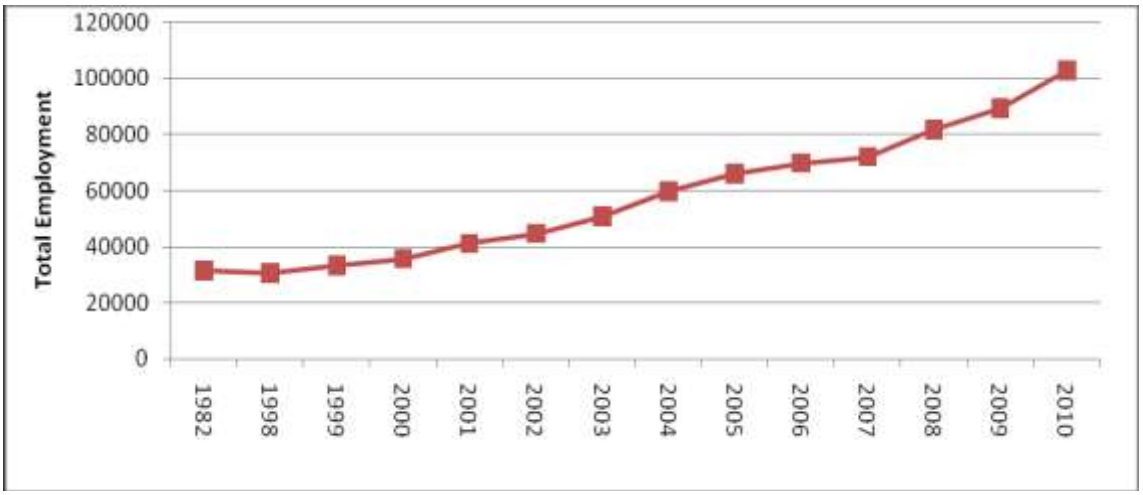
Annual Sector-wise Employment	1981	1998	2002	2006	2010
Agriculture and Fishing	67.1	44	36.7	30	23
Community, Social and Personal Services	6.3	21.2	25	27	27.8
Construction	6.1	16.2	18	20	24.3
Wholesale, Retail, Trade, Restaurants & Hotels	5.9	7.7	8	9.1	9.6
Transport, Storage and Communication	4.3	7.5	8.9	10.3	11.4
Manufacturing	4.3	1.6	1.5	1.52	1.44
Activities not Adequately Defined	5	1	1	0.9	0.9
Finance, Insurance, Real Estate and Business	0.3	0.4	0.5	0.8	1.2
Mining and Quarrying	0.4	0.2	0.2	0.15	0.16
Electricity, Gas and Water	0.3	0.2	0.2	0.23	0.2
Total	100	100	100	100	100

Source: (Pakistan Bureau of Statistics, 2011).

To substantiate the arguments, another proceeding figure 4.8 is presented to analyse the employment effects of Gwadar port. The statistics released by Federal Bureau of Statistics of Pakistan (2009), the emergence of Gwadar port has noticeably improved the socio-economic trends in the region. From the starting point of the port's construction, improvement in employment is very slow but with the passage of time this positive trend gets sharp rise till the port project's completion. There is a pause in the trend from 2005 to 2008 as the port's work is somehow sluggish. With the port operation in 2008, the

employment ratio increasingly goes up. This all reflects that Gwadar port's destiny will determine the fate of regional businesses and wellbeing of the people.

Figure 4.8: Gwadar port's Construction & Positive Trends in Employment Sector



Source: Federal Bureau of Statistics Pakistan 2011.

Moreover, staff hired by Chinese Port Authority (Earlier Port of Singapore Authority was assigned the task to handle Gwadar port) Trading Corporation of Pakistan and Gwadar port Authority equally contribute in the economic growth of the region. Chinese Port Authority is comprised of both local and foreign staff with high salary package as compared to GPA which is paying less as the former authority pays in foreign currency while GPA's payment is in rupees. Before the construction of Gwadar port, the local residents could hardly earn Rs. 3000 to 10,000 per month. The establishment of Gwadar port has brought about a positive change in the standard of lives of the inhabitants as each one of them is getting according to his/her capacity and capability (Survey, March 13, 2013). Now they are no more subject to the exploitation at the hands of landlords.

According to another survey conducted by Ullah, Berma & Shahadan, two persons from each family are employed in the Gwadar port or port related sector. It is estimated that on average 37.5 percent employment is related to port and its related sectors (2013, p. 13). The household employment generated by Gwadar port includes operational staff, admin staff and stevedores etc are called direct employment whereas indirect jobs are related with infrastructure, automobiles, trading, manufacturing ships, warehousing and cargo handling etc.

4.7.4. Economic Impact of Gwadar port on Revenue Generation

As discussed above, after the construction of Gwadar port, the region is experiencing different socio-economic activities. The activities mentioned below in the table 4.2., have substantial economic impact on the region and are contributing heavily in revenue generation. Gwadar port's existence has not only encouraged investor for various businesses but it has equally contributed to raise the purchasing power of the residents to live decent life. As a result, the region is now experiencing huge spending and cash flow which earns remarkable revenue for the government.

Table 4.2: Share of Businesses in generating Revenue

Type of Activity	Share in Percent
Electrical Services	4.7
Hotel services	6.2
Real estate development services	12.0
Shipyards and repairing services	12.1
Travel services	2.9
Warehousing distribution services	9.5
Recreation activities	6.7
Fuel oil banking services	10.6
Agricultural and Fisheries	18.5
Transportation	16.8

Source: (Gwadar Development Authority [GDA], 2011).

According to the survey conducted by (Ullah, Berma & Shahadan) business prospects in Gwadar port are enormous and investors are happy for the dividends they accrued out of their investment (2013, p. 9). The survey reveals that from the investment point of view, all businesses have achieved mark success in some areas the investors gain double in return of their expenditure as depicts in table 4.3., below. Moreover, these investors are mainly of national origin and foreign investors, Chinese, Afghani and Singaporean are few (only 3 percent of the entire work force). The disappointing figure of foreign investors is because of prevailing law and order situation in the region in particular and Pakistan in general.

Table 4.3: Revenue and profit of business in Gwadar (in Rs).

Year / Category	2008	2009	2010	(2008 to 2010)
Average Income	**7000000**	**7600200**	**8645000**	**7748400**
Average expenditure	**3700000**	**4100000**	**4725250**	**4175083**
Average gross Profit	**3300000**	**3500200**	**3919750**	**3573150**

Source: (Ullah, Berma & Shahadan, 2013, p. 10).

The survey also reveals that 78 percent respondent (Owners/investors) corroborate the fact that Gwadar port has earned them a good share of profit in the investment while 22 percent are of the view that without Gwadar port their business would not have been established (Ullah, Berma & Shahadan, 2013, p. 10). As the port's construction work is

nearly to complete, more firms and investors are interested to compete with their business expertise. This demand has further augmented the prices of real estate and rent.

4.7.5 Economic Impact of Gwadar port on Fish Production

The coastal area of Pakistan has abundant fish and according to estimates about 350 species including demersal fish, pelagic and species of shrimp, squid and lobsters exist (WB, 2008, p.75). The country's untapped stock of mesopelagic lantern fish could only scale the export production up to US$ 600 million (p. 75). Furthermore, this exploitation only covers 50 nautical miles of the area whereas Pakistan can exploit large pool of fish up to 200 nautical miles combined with aquaculture which could bring over US$1 billion foreign exchange to the national exchequer annually. Since inception of Pakistan, Pakistan's fish export is mainly Karachi based and Balochistan's fish production is meager, despite rich in number and quality.

According to a survey (Personal communication, February 11, 2013), presently, the Balochistan province's inadequate contribution stems from the absence of fish regulatory body, port incorporated fish industries/facility such as latest fish processing plants, industrial mechanism of packaging and preservation fish products, freezing halls for auctions and mechanism to export high value fish (Fresh fish with proper packaging and handling). As fish is highly perishable food item which requires greater care in handling and processing. Fishery products need immediate proper cold chain/storage to avoid its deterioration. In Balochistan, most of the fishermen use galvanized iron sheets, unhygienic crushed block ice, environmentally harmful nets and other obsolete practices

in the fish handling. All this results in low productivity and low fish value (fresh and hygienic fish product is considered high value export commodity under international standards). Absence of fish harbor of port, no vessel or fleet is being used in the fish catch rather smaller boats are used for fish transportation to beach. This factor is being exploited by foreign fleet and trawlers which use latest techniques to catch fish from the bottom and left unchecked with leaving nothing for poor fishermen.

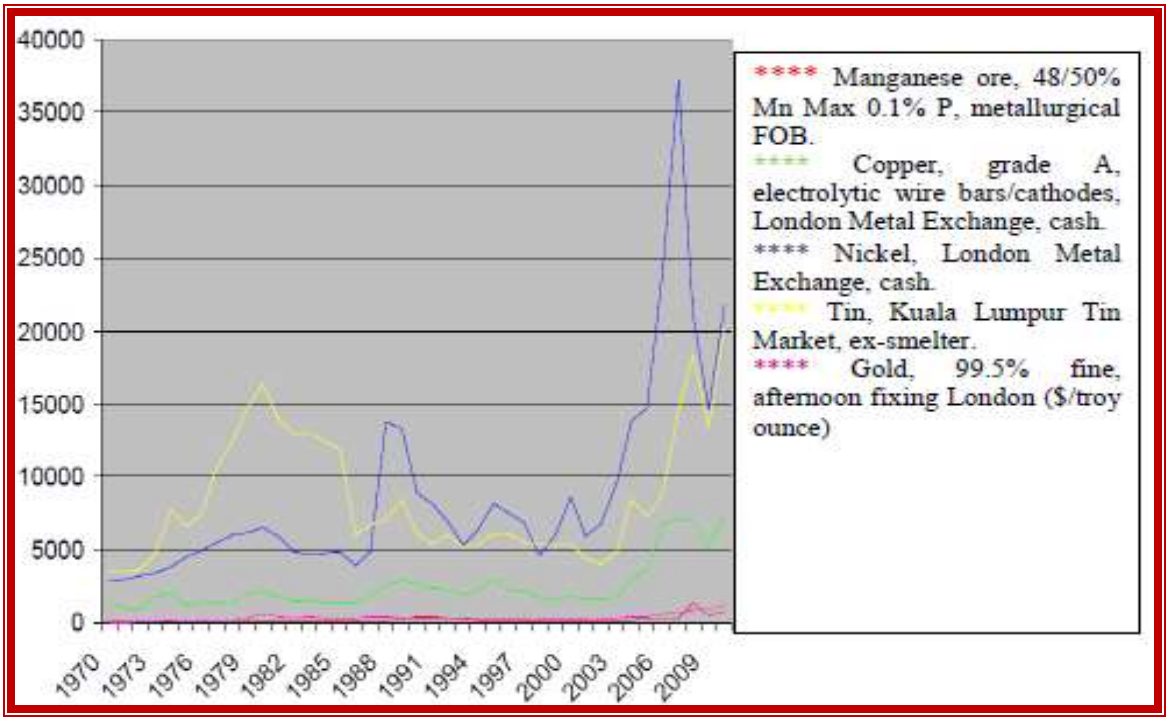
Emergence of Gwadar port with all associated facilities such as high tech processing plants, Chill halls for auction, individual quick freeing, industries for packaging and processing of fish related food products, communication and transportation for exporting the products, regulatory body to monitor and ensure implementation of international standards and modern fishing fleet to maintain quality of the products are some of the promising prospects that would promote fish industry to its new heights. Moreover, port would also facilitate in storing and distributing the fish products and connect coastline with transportation links for the domestic consumption as the country is consuming more than 65 percent of fish products which 22 percent can hardly be exported while the rest is used for poultry food. In modern world, fisheries catch has been enhanced through technological advancement and now fishing lines can easily be covered by 12 jumbo jets and fleets. Global Positioning Systems (GPS) and radar technology facilitate ships to venture into the open ocean and target lucrative fishing area with accuracy (Mickel & Sticklor, 2012, p. 107). Now with such technological advancement, deepwater fisheries have provided new frontiers and in 2007 40 percent global marine trawling grounds

experienced deeper grounds for fish catch than even continental shelf (United Nations Environmental Program [UNEP], 2007, pp. 33-36).

4.7.6 Economic Impact of Gwadar port on Minerals Exploration

Mineral sector is considered potential source of growth for Balochistan's province in particular and Pakistan in general. Poor communication infrastructure, deteriorating law and order situation and absence of regulatory authority are the main impediments in the full exploitation of this abundant resource. Dearth of metal and minerals in the international market has resulted in the rise of these products prices by 200 times. Prices of nickel and tin have risen and likewise copper and manganese have also reached historic high in value (Mickel & Sticklor, 2012, p. 109). See figure 4.9.

Figure 4.9: Evolution of Mineral Prices 1970-2011



Source: (UNCTAD, 2011).

In terms of geological potential, Balochistan possesses more than half of the mineral resources, yet its contribution is below 1/5 to national mining GDP. Since inception of Pakistan, only 39 minerals out of 50 have so far been exploited under 1080 licenses. The area is a big market for large mining enterprises in the most traded metallic commodities such as porphyry copper/gold, banded iron-ore, volcanogenic massive sulfide (lead/zinc), gypsum, titanium antimony and chromite (Mickel & Sticklor, 2012, p. 109). Moreover, it is a known fact that the Indian Ocean is equally abundant in marine mineral resources. These waters have great potential as a source of minerals including polymetallic nodules and polymetallic massive sulfides which contain nickel, cobalt, iron and manganese (Mickel & Sticklor, 2012, p. 17). Keeping in view the great mineral potential of the ocean, India has acquired exclusive right to explore this precious metal in the Central Indian Ocean basin since 1987(p. 104). Exploitation of these minerals requires high-technology industry, equipment and professionally trained staff.

Gwadar port with its associated projects of road and rail network, communication and industrial zone, could play a significant role in exploring the resource-rich Balochistan province and Indian Ocean with its high-tech Industries and modern vehicles. Such technology can help explore these metals deep in the sea waters. With help of modern technology, deep water minerals can easily be exploited. Latest vehicles and machines can now operate deep in the ocean and can access depths of 11 km. Gwadar port's establishment can fully exploit Saindak, RekoDiq, Chaghai, Duddar and Lasbela projects. All these projects aim at exploring the untapped deposits of the area. However, the Saindak project is pertinent to mention. The project was opened in 1995 to explore gold

and copper. During its trial production, it helped the national economy with 140 million rupees foreign exchange. The project's prospects are high and could produce 45,000 tons of copper along with other metals of high value. These precious metals would not only meet domestic industrial requirement but these minerals would also be exported through Gwadar port to the international market. The proceeding discussion reveals that mining sector in Pakistan holds tremendous promise for economic development as these industries will not only employ thousands of people but these industries would also have spin-off effects on other clustering industries such as cement, steel etc.

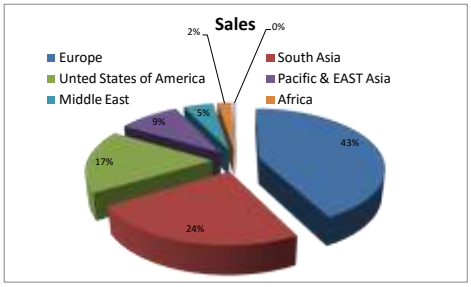
4.7.7 Economic Impact of Gwadar port on Tourism

Today tourism is one of fast growing developing industries in the world. Unlike other industries, tourism industry is less influenced by stagnation and will continue generating income to support national economy. Other dividends attached with this industry are environmental protection, development of national and regional culture renewal, employment generation, development of physical infrastructure of communications, establishment of new hotels, restaurants, business malls and related other businesses (Shahriari et al., 2012, p. 73.)

Pakistan - a land of the pure with greenery, rivers, waterfalls, sandy and dust deserts, high peaks, plain areas, valleys, snowfall and coastal areas present fascination for the international tourism. In an interview with Senator Nilofar Bakhtiar, former Federal Minister for Tourism and Culture said that Pakistan is one of few countries in the world which offer all types of tourism: Adventure Tourism: (Towering snow-clad peaks of

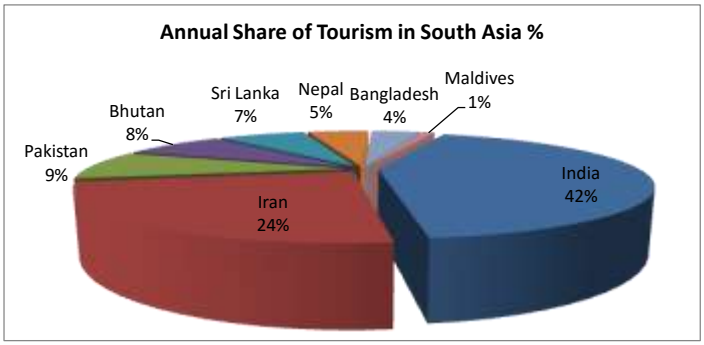
Northern Areas, the valleys of Swat, Dir, Gilgit, Hunza and Skardu, the Silk Route and Karakoram mountainous ranges) Eco Tourism, (Ayubia national park, Muree, Nathiagali, Salt Range) spiritual/religious, (Shah Jahan Mosqu, Badshai Masjid, Sikh pilgrims and shrines places in Punjab, Places of Buddhism Gilgit and Norther areas, Chukundi Tombs) heritage, (Khyber Pass, Indus civilization of Taxla,Makli of Thatta, Rawat Fort, Rohtas Fort, Gandhara Civilization) coastal and sports (Beaches of Hawks Bay, Sandspit, shores of Balochistan and Karachi with Green Turtle and Olive Ridley are worth mentioning (Personal communication, February 14, 2013). Tourism's contribution in the country's economy is very little. In other regions of the world, this sector is playing a very tremendous role in earning foreign exchange to the countries, see figure 4.9. (Ministry of Tourism, 2006). But in Pakistan the sector prospects is bleak, especially in the prevalent law and order situation in the county.

Figure 4.10: World Tourism and Tourism of South Asia



Source: (Ministry of Tourism, 2006).

Figure 4.11: Tourism in South Asia and Pakistan.



Source: (Ministry of Tourism, 2006)

Establishment of Gwadar port can prove to be a tourist spot like Connecticut's economy which includes four regions i.e., New London, Fairfield, New Haven and Middlesex of United States of America (Pomeroy, Plesha & Muawanah, 2013, p. 6). These economies are using ports as maritime industry which includes port services, shipbuilding, aquaculture, tourism, recreational boating and fishing, commercial fishing marine manufacturing, marine engineering, marine transportation (for Scenic and sightseeing) and marine environmental services (p. 3). The beachfront, recreational spot, fishing areas for tourists, international hotels and other facilities would make Gwadar port an attractive tourist place to visit. This would require proper transportation both rail and road network which would connect Gwadar with rest of the country. The port would need a cruise terminal to attract tourists. Currently the country has no such coastal tourist spot at par with international standards and the entire coastal belt is disconnected with the rest of the country. Connection and linkage of the port with other tourist spots would enhance the

sector to add economic benefits to the region and country. By doing so, the region's living standard would significantly be improved and investors would be encouraged for businesses and economic impacts of the port industry will cascade throughout the entire country economy.

Makran coast has a picturesque view of natural beauty surrounded by deserts, humongous mountains and long unspoiled golden sunny beaches along the coastline. Following drizzling places are few among tourist spots situated on the Makran coast (Vision Gwadar, 2013, p. A1):

4.7.7.1. Hingol National Park

Hingol National Park is the largest National Park of Pakistan spread over about 1,650 km. Cruising on the Makran coastal highway, Hingol National Park is located approximately 190 km away from Karachi. It is a huge eco tourist place where wildlife can be observed in its natural habitat while gushing water of Hingol river along the park attracts swimmers to cool off in summer. The diversity of birds and fish species including 35 species of mammals, 65 species of amphibians, variety of reptiles, 185 species of birds, 250 plant species and 7 unknown species make the park a wonderful place (See Appendix 10.9).

4.7.7.2. Kund Malir

Kund Malir falls in the category of dazzling places of the world to visit. It is a dazzling desert beach near National Park of Hingol located about 145 km from Zero-point on

Makran Coastal Highway. The sand dune desert appears along the Makran Coastal Highway adding beauty to the Kund Malir. Continues ocean cool breeze and wind form a spectacular landscape of sand dune desert on a few hundred meters. The most interesting thing to notice during trip to Kund Malir would be a breathtaking view of desert safari. This province's amazing tourist attraction has not been capitalized and reasons for such failure are lack of means of transportation such as road, air and cruise along with other tourist facilities like hotels, restaurants, malls and security to foreigners. After establishment of Gwadar port with its mega project of road, air port and cruise facility on Gwadar port would bring this eco tourist spot into the world limelight which would support national economy and generate employment for local people to improve their living standard (See Appendix 10.10).

4.7.7.3. Buzi Pass

Buzi Pass is located almost 6 km from Kunk Malir. Travelling on Buzi Pass would be a blissful experience as it snakes its way through the mountain. On one side vast blue water of the Arabian Sea can be seen while the grandeur of majestic mountains on the other side gives a soother effect. Peaks of the mountains would compel tourists to go up for a panoramic view of the Arabian sea and the mountains chains spread in Balochistan. The pass with high peaks give excellent hiking, trekking and caving opportunities (See Appendix 10.11).

4.7.7.4. Ormara Beach

Ormara beach, being beautiful and blessed with nature, can be counted among the world most beautiful beaches. It is a long stunning beach around the edge of Ormara for tourist outing. Ormara with astonishing blue green beaches, golden sand and natural beauty and fauna, make it an incredible tourist resort (See Appendix 10.12).

In this context, development of Gwadar port, famous for its sea face known as Koh-e-Mehdi and Darya-e-Cham meaning eye of sea, along with its mega projects of roads, railways, improved air port, establishment of economic and industrial zones and modern Gwadar city with five star hotels facilities would enable the government of Pakistan to capitalize the forgotten juniper forests, long stretched deserts, mysterious valleys, blue water of sea, green water of lakes, rugged mountains along with abundant resources, hilly stations, orchards and archaeological sites, historic forts and prehistoric caves present a holiday destination for everybody to support national economy (See Appendix 10.13).

Box 4.1. Case Study of Candarli Port of Turkey

Likewise Gawadar port of Pakistan, a port project of Turkey 'Candarli Port' is being underway to develop it as a hub port in the region to catch transshipment in Black Sea. The port is aimed at serving as a gateway between Europe, Middle East and Black Sea countries with a vast railway and transport system (Bloem, Putten, Deveci & Tuna, 2013, pp. 60-61). To enhance freight capacity of the existing Izmir port of Turkey, the government has initiated to launch Candarli port as an alternative to handle cargo along with other associated benefits (Duvarci et al, 2008). 4.5 billion US dollars Candarli seaport project is expected to generate 15 thousand jobs and employment in the initial stage of completion along with setting up a number of industries and businesses (Aliaga Express, 2011). Moreover, The policy makers argue that the seaport project will support regional and national economy by bringing improvement in the trade and businesses (Ministry of Transport, Republic of Turkey, 2009). On the similar way, Gwadar port will not only support business. In this context, Gwadar port emerges a promising reality on the global map to support local, national and regional economy by enhancing trade, businesses, employment and other economic development.

Source: (Alkan, 2011, p. 338; Bloem, Putten, Deveci & Tuna, 2013, pp. 60-61).

4.8 Conclusion

Seaport investment gives strategic dimension to the planning of the region situated in the vicinity of the port. Seaport has spillover effects in terms of economic growth, regional development of the hinterland of the port, generation of employment, contribution for exploitation of coastal and maritime resources, generation of revenue and establishment of industries.

In this context, Gwadar port's development presents an overall micro-economic impact on all activities generated from and culminated in port in addition to its effects on incomes and distribution. Investment in Gwadar port will largely contribute in the economic development of surrounding regions of the port in particular and the country in general. As the port development will have significant impact on the regional industrial development and industrialization will further help reduce poverty, create jobs and employment and bring socio-economic changes such as gender equality, education, healthcare and other amenities (Maqbool Afridi, personal communication, April 27, 2013). Development of these industries in the port area will further encourage investment and contribute to the national economic development. Gwadar port is equally considered important to play an incentive role in transforming the Makran Coastline, bringing about socio-economic development in Balochistan and ensuring Pakistan's global competitiveness. Gwadar port will act as a catalyst for the development of industrial cluster in the region. Gwadar port with its associated projects of road and rail network, communication and industrial zone, could play a significant role in exploring the resource-rich Balochistan province and Indian Ocean with its high-tech Industries and modern vehicles and its location surrounded by picturesque view of natural beauty would also help develop tourism in the province.

CHAPTER - 5

GWADAR PORT: A REGIONAL TRADE CORRIDOR

> *If we see this whole region, it is like a funnel. The top of the funnel is this wide area of Central Asia and also China's western region. And this funnel gets narrowed on through Afghanistan and Pakistan and the end of this funnel is Gwadar port. So this funnel, futuristically, is the economic funnel of this whole region. All the top of this funnel, the broad top of the funnel, anything going into it or out of it, Pakistan and Gwadar port provides the real input, the inlet and the outlet into it. It will also facilitate the development of shipyards and export of mineral resources of Balochistan*.
>
> (General Pervez Musharaf (R)'s speech on the ground breaking ceremony of Gwadar on March 22, 2002).

5.1. Introduction

Trade produces and deepens specialization and specialization in return brings economic development, especially for countries with relatively modest domestic economies (Starr, 2007, p. 36). Economic integration with the world beyond regional boundaries facilitates in trade expansion to acquire new technologies from more advanced nations which in the long run help reduce poverty. As evident from the available statistics that global trade expansion has considerably contributed to salvage 440 million people from poverty (Cline, 2004, p. 227). Promotion of economic growth and political stability has long been associated with regional integration around the globe. The success of European integration after epochs of wars and conflicts can be cited an unprecedented example to developing countries of other regions to direct their energies for socio-economic development while pursuing the same patterns of regional economic integration (Linn & Pidufala, 2008, p. 2).

Today, the global economy has considerably been transforming from regional integration into cross-continental trade with introduction of new manufacturing and trading practices of outsourcing, new production systems and intra-firm trade where trade corridors are considered indispensable for landlocked countries to seek access to global trade with cost-effective and time efficient transportation (Maria Sultan, personal communication, October 25, 2012). A viable and cost effective trade corridor on modern pattern is a determining factor especially for landlocked countries to develop their economies through new paradigm of international cooperation (UNESCAP, 2003, pp. 26-28). While defining the concept of corridor, Gadzeni Mulenga (2013) touches upon its significance as he highlights that trade corridor is considered as a means to develop the regions and countries around the corridor (See Appendix 10.5 for economic impact of Corridor). The trade corridor plays a key role to provide regions, especially landlocked countries, as a gateway to transport their goods and services but at the same time it stimulates socio-economic activities for broader economic growth and development for areas associated or linked with it. The broader spectrum of development is created through establishment of industries which not only promote social facilities rather it help create employment and increase living standard of people, especially living in rural areas. The development of trade corridors not only stimulate intra-regional and global trade and foster market integration but also open up new opportunities for landlocked countries to participate in global trade (Mulenga, 2013, pp. 1-2). The socio-economic opportunities of the trade corridor includes promotion of investment in various sectors of economy such as agro-industry, manufacturing, natural resource-based enterprises, trade, tourism, schooling and health facilities etc (Maqbool. Afridi, personal communication, April 27, 2013).

Given its geostrategic location with long coastal belt, Pakistan emerges as a cost-effective and viable trade corridor for landlocked countries of Central Asia and Afghanistan. The corridor will not only serve as a bridge between South, East, Central and West Asia (Cheema, 2011, p. 4) but its newly constructed Gwadar deep-sea port with its complete road and rail network will also substantially reduce distances about 500 km to these countries, as well (Starr, 2007, p. 90). Presently, travelling from Karachi to Chaman is longer and expensive than from Chaman to Dushanbe. The establishments of Gwadar port will help reduce cost as well as travel time up to ten hours depending on the starting point of the journey. It is also evident from former President Pervaiz Musharraf speech made in the Grand Tribal Jirga in Kabul on August 12, 2007 that Pakistan is visualized as a hub of economic activities connecting South, Central and West Asia through its envisioned trade corridor (Dawn, 2007).

Pakistan has comparatively an edge over other regional transit routes as the country has developed all necessary transport infrastructures required for trade and can provide an alternate oil and gas (LNG) terminal to Central Asia to export its products to the international community (Dahl, 2013, pp. 17-18). Professor S. Frederick Starr (2007) is among those who favours North-South corridor via old Silk Road. He earlier conceptualized the Greater Central Asia Partnership (GCAP) to integrate Central Asian trade cross-continentally via traditional transportation routes and this trade and energy corridor would bring about socio-economic development in the region (p. 78). GCAP presents a broader spectrum of economic cooperation and integration among Central Asia, South Asia and surrounding regions as the region historically served as a centre of

commercial activities among Europe, South Asia and Central Asian Countries (p. 79). The idea of GCAP economic realism reflects revitalization of old Silk Road in which traditional Southwest Asian trade routes via Afghanistan up to South Asian ports would be linked. Presently, the regionalism is being gradually converted into cross-continental cooperation and the Silk Road that generated mammoth amount of trade between Europe and Asia across centuries is now revitalizing through the development of new corridors while trade on continental level is opening further vistas for cooperation among states (Norling, 2006, p. 21).

5.2 Historical Background

The new trade corridor realism of Gwadar port for promotion and advancement of economic activities can be justified in the historic reality of extensive regional and cross-continental commerce existed between Europe and Asia (East, Central and South) over centuries (Kazi, 2006). Historically, Seaport of Barbarikon, now known as Pakistan coast, used to be an important and cost-effective trade node between these regions for economic activities through land and sea network famous as “Silk-route” (79). Before the Arab conquest, the Great Kushans ruled the entire region stretching from modern Central Asia, Afghanistan and Pakistan. Under Kushans rule, coastal harbor of Barbarikon – located between Gwadar and Karachi port, served as a key regional trade hub on the warm waters of Arabian Sea for trading. The Barbarikon coastal harbor further contributed in the cross-continental trade among Rome, China and Kushans (p. 84). It is worth noting that land routes used by the Kushans rulers are the same being used by the government of

Pakistan, but with much improved infrastructure. Over the centuries, these routes remained the only passage linking South at an entry point of Gwadar to exit point at Russia through the Panzh River. The critical role that regional trade corridors play in fostering regional economic integration and development, Asian Development Bank (ADB) has been supporting the development of physical infrastructure in Pakistan, Central Asia and Afghanistan to achieve desired economic benefits (ADB [Fact Sheet], 2009). Moreover, new tunnels are under construction northward to connect Central Asia with China via Khorog and Kulma Pass. In this context, Gwadar port emerges as a main southern port for the region and facilitates Afghanistan to open up transit trade to Central Asia through traditional silk routes of Uzbekistan, Tajikistan and Turkmenistan (Starr, 2007, p. 22). Abundance oil and gas reserves along with other immense trade items could be attracted areas for world powers to seek access to the Central Asian Markets through the history oldest, viable and cost-effective transit route now known as Gwadar port. To revive old Silk Road with modern road and rail network connecting Gwadar port with surrounding regions is becoming a long awaited reality of the government of Pakistan. In the master plan of Gwadar port, road and rail networks have been catered to channel Central Asian transit and transshipment trade though the country's national highways and also to link Afghanistan, Kyrgyzstan, Tajikistan and Kazakhstan via the Karakorum Mountains through the existing Chinese road network (Starr, 2006, p. 92).

5.3 Development of Trade Infrastructure

Transportation infrastructure, including roads, railways, civil aviation, ports and telecommunication, contributes a major role in the expansion of trade within national borders, the region and beyond. For economic and trade development, coastal countries largely depend on seaborne trade while landlocked countries mostly rely on land borne trade with a desire to seek sea access. Industries are dependent on a modern, affordable, economical and efficient transportation infrastructure to ensure uninterrupted supply of raw material and export of its refined production. Today trade is increasingly considered as a driver of regional integration and key to regional prosperity and development which requires improvement in transportation. Physical infrastructure involves construction of all facilities required for efficient and effective trade corridor, main features are:

53.1 Establishment of new and modern transport links;

5.3.2. Improvement in existing transportation links;

5.3.3. Enhancement of carrying capacity of the roads;

5.3.4. Ensuring border and road safety;

5.3.5. Provision of incentives for promotion rural development and tourism etc.

The development of physical infrastructure is vital to narrowing the gaps in economic development. In 1998, the ADB introduced the concept of “economic corridor,” aims at promoting regional economic cooperation. Infrastructure development and the evolution of production networks help increase freight transport (Ikumo, 2010). Apart from freight transport benefits, the above mentioned physical Infrastructure development also helps

address the crosscutting challenges of economic development such as balancing economic growth and poverty alleviation etc.

5.4 Regional initiatives for Development of Trade Infrastructure

5.4.1 Infrastructure Development in Pakistan

To handle future flow of traffic emanating from Central Asia and Afghanistan, the existing North-South transit corridor needs to be extended and broadened. Presently the Karakorum Highway and national highway network of Pakistan is the only viable and cost-effective link to connect these landlocked countries with the world. However, the country under its Gwadar Master plan is developing new bypasses, motorways, highways and expressways to facilitate future estimated trade flow of Central Asia and Afghanistan (Dr. Alamgir, personal communication, January 2, 2013). According to official version, heavy investment in these road and rail networks would significantly help reduce poverty and underdevelopment and would promote stability not only in Pakistan but also in the entire region through this extended network of commercial communication as shown in below table 5.1 (Starr, 2006, p. 92).

Table 5.1: Road Network of Pakistan.

Roads	Purpose	From	To	Size	Bridges	Status
N-35 KKH	Weather fair	Gilgit	Chinese Karakorum	Not Available	5-6 Bridges	Co-signed with China
Motorway	Internal Connection	Mansehra	Naran	124 km	No	Operational
N-15	NHA	Naran	Jhankhand	48km	No	Operational
N-75	NHA	Islamabad	Murree	43km	Yes,	Operational
M-1 Section I	Motorway	Manshera	Nowshera	37km	No	Planned
M-1 Section.III	Motorway	Manshera	Rawalpindi	23km	No	Planned
	Nowshera	Chalbat	Nowshera	71km	No	Operational
N-80	NHA	Kohat	Bannu	1km	Tunnel	Operational
M-2	Motorway	Rawalpindi	Lahore	359km	No.	Operational
M-3	Motorway	Lahore	Faisalabad	525km	No	Operational
M-5 & M-6	Motorways	Faisalabad	Karachi	Unknown	May be	Planned
M-8	Motorway	Gwadar-Turbat	Khuzdar	Unknown	May be	Planned
M-8	Motorway	Khuzdar	Ratodero Wangu	35km	No	Planned
N-10	NHA	Karachi	Gwadar-Jiwani	500+km	May be	Operational

Source: (NHA [Official Website],2013)

Development of modern road infrastructure is the top most priority of the government as Pakistan's 89 percent passenger and 96 percent (according to some resources 97 percent) all inbound and outbound freight traffic are carried by roads (Starr, 2006, p. 92). Pakistan's

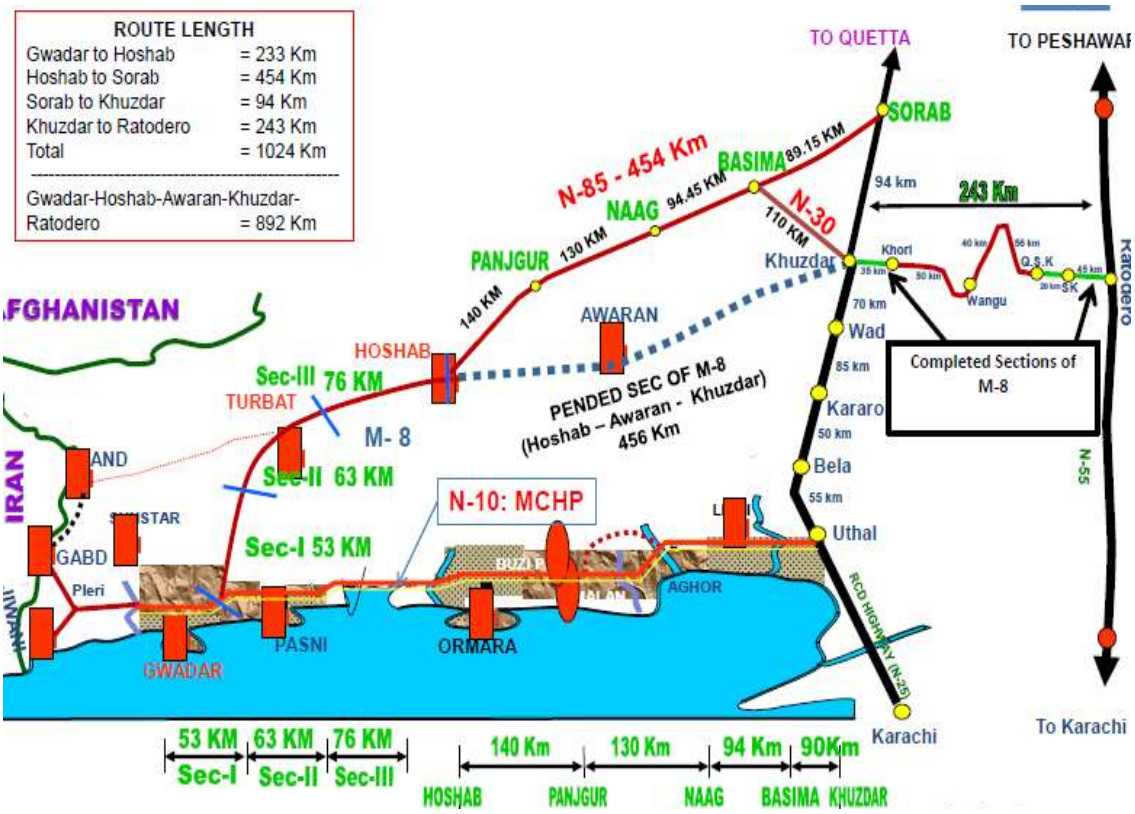
N-5 National Highway serves as a main road corridor to connect Afghanistan from Torkham in the north to Karachi in the south. Moreover, construction work is underway on the Torkhan-Jalabad link road to manage traffic load. The Indus Highway (known as for its technical designation N-55) is considered the second North-South corridor in Pakistan which is being upgraded to meet international standards. The newly constructed Karachi-Gwadar Coastal Highway has also been linked with above mentioned main highways to further reduce overall distance between North-South Corridor about 500 km (Ministry of port and Shipping, govt. of Pakistan, 2011). Moreover the newly planned roads will connect Pakistan with Afghanistan at various junctions like Jalalabad and Wakhan border (Kazi, 2006, p. 87).

The government is constructing a network of roads at a cost of Rs35 billion to link Gwadar port with rest of the country and further extension of the existing network of Coastal Highway (N-10) and ECO Highway (N-25) with the neighbouring countries. To cater future trade requirements of Central Asian Countries, Gwadar port has been connected with Chaman through the Coastal Highway and ECO Highway (Rs. 35 bn road network, 2006). Apart from this, additional roads and a rail network from Gwadar to Chaman are also being planned with US $ 500 million assistance of ADB (Kazi, 2006). While existing roads from Gwadar to Basima, Sorab, Hoshab, Pangur and Nag are also being upgraded at a total investment of US $ 35 million (p. 94).

According to the available statistics, the government of Pakistan has exhausted a total of Rs 13527 million on the link roads connecting Gwadar port with above mentioned road

networks. The complete work of the roads include 653 km Lyari-Ormara-Gwadar-Gabd road (N-10), 61 km (M-8) Quba Saeed Khan-Ratodero road and 35 km M-8 from Khuzdar- Khori road. Whereas 73 percent Khori-Quba Saeed Khan road has been completed. The ongoing road projects of National Highway Authority (NHA) include 110 km long Baisma-Khuzdar road (N-30), 196 km Gwadar-Turbat-Hoshab road and 459 km long Hoshab-Basima-Sorab (N-85) for providing connectivity to Gwadar port ('Rs 13,527M spent on construction of Gwadar', 2013). Once these motorways are operationalized, especially Gwadar-Ratodero Motorways, Pakistan would emerge as the most viable and efficient high-speed motorways in the region to facilitate bilateral, regional and transit trade between Pakistan, Central and South Asia which is expected to increase from existing low level of US $ 73 million trade to multiple quantum (Khan, 2013, p. 49). Figure 5.1 gives a detail overview of the ongoing road infrastructure in Pakistan. All these roads would help expand trade and attract trans-shipment facilities from Afghanistan and Central Asia to Gwadar port. Table 5.2 reflects detail ongoing and completed road work in Balochistan.

Figure 5.1: Gwadar Road and Rail Linkages.



Source: (NHA, 2013).

In addition, parallel to road network, a rail network is also being implemented to achieve desired results as envisioned from the project. Currently, no such railway facility exists in Gwadar District. The government is planning to develop a railway link between Gwadar and Mastung which would link Gwadar port with Afghanistan and Central Asian Republics at a total cost of Rs. 107 billion. This 901 km long railway track with35 railway junctions will connect Hoshab, Nag, Besima, Surab, Kalat, Mastung, Quetta and Chaman where the track will be spread out in Afghanistan and then to CARs ("District Development Profile 2011", 2011, p. 53). Another mega transportation project would connect China through the Indus Highway. Pakistan with support of China, Kazakhistan, Kirgizstan and Uzbekistan are already working on a road and rail network from Central

Asia to the Chinese Province of Xinjiang to the Gwadar port (Dost, 2013). The ADB has provided assistance in the construction of a rail line connecting Gwadar port with Chaman that will be extended to Khandahar, Kabul and Heart. These links will then be expanded to the border posts in Iran, Turkmenistan Tajikistan and Uzbekistan and will finally link with European market via Turkmenistan and Turkey. This north and west link will also facilitate travel to Daulatabad/Ashkgabat in Turkmenistan, Termez in Uzbekistan and Tajik Badakhstan via in-country railway (Starr, 2006, p. 95). Under the Gwadar master plan, the extended road and rail networks would help enhance national trade upto 25 percent by 2020. Moreover, Pakistan's transit trade share with CARs, Afghanistan would increase by 25 and 40 percent respectively (Khan, 2013, p. 89). The establishment of Gwadar deep sea port will specifically designed to cater the needs of Central Asian trade and acts as a regional transit and transshipment hub.

Table 5.2: Mega Road Projects in Balochistan.

Gwadar Port Completed Mega Road Projects in Balochistan							
S	Rout	Road Description	Punjab	Sindh	KP	Balochistan	KM
1	N-5	Karachi-Lahore-Peshawar-Torkham	1,021 km	617 km	127 km	-	1,819 Km
2	N-10	Lyari-Ormara-Gwadar-Jiwani	-	-	-	653	653
3	N-25	Karachi-Kalat-Quetta-Chaman	-	23	-	790	813
4	N-30	Basima-Khuzdar	-	-	-	110	110
5	N-40	Larkpass-Dalbandin-Taftan-	-	-	-	610	610
6	N-50	Kuchlak-Zhob-D.I.Khan	-	-	143	388	531
7	N-85	Hoshab-Panjgur-Nag-Baseema-Sorab	-	-	-	487	487
8	M-7	Dadu-Dureji-Hub	-	132	-	138	270
9	M-8	Gwadar-Hoshab-Khuzdar-Ratodero	-	64	-	828	892

Gwadar Port ongoing Mega Road Projects in Balochistan					
S	Rout	Project/Section	km	Cost (million Rs).	PSDP 2012-2013
1	N-10	Lyari-Gwadar-Gabd (MCH)	653	3,262	5
2	N-25	Kalat-Quetta-Chaman (ADB)	222	6,778	1200
3	N-50	Qila Saifullah-Zhob (ADB)	155	9,199	2500
4	M-8	Gwadar-Turbat-Hoshab (3 Packs)	193	18,379	3,302.5
5	M-8	Khuzdar-Ratodero (3 Packs)	143	6,672	1,100
6	N-85	Hoshab-Basima-Sorab	454	22,412	1100

Source: (NHA, 2013).

5.4.2 Infrastructure Development in Afghanistan & Central Asia

International donors have been working on strategic plans to improve old transit routes of Afghanistan along with the development of new transport roads to connect the landlocked country with its surrounding regions. Such efforts to develop physical infrastructure required for the success of the trade corridor would facilitate trade flow of Central Asian countries to South Asia, China and to the rest of world via Gwadar port (Aziz, 2005, p. 34). The strategic plan of development would help establish economic ties in the region which will in the long term pave the way for durable peace and stability in the entire region while bringing socio-economic development in the surrounding regions (p. 34).

Presently, Afghanistan is spread over 652,000 sq. km and relatively is a large country whose principal means of communication is transport. Afghanistan's road network comprises of 6,100 km of national, 15,000 km of provincial, 2,000 km of rural and 3,000 km of urban roads network (Pyo, n,d). With support of ADB, international donors and partners, a massive road infrastructure development is underway to reinvigorate old Silk Road. Construction of Panj River Bridge between Afghanistan and Tajiskistan has not only connected these two states but it has also wiped out the remnants of the former Soviet legacy (Norling, 2006, p. 23). Another mega road project of 2300 km ring road is under construction in Afghanistan. The road is being constructed with financial and technical support of Japan and America to connect Heart, Kandahar, Maimana, Mazar-e-Sharif and Sheberghan with Kabul and will facilitate continental trade between East-West and the North-South (p. 22).

After completion of all these roads and rails transportation network, the trade corridor will run from Almaty though Bishkek, Osh, Dushanbe, Kabul, Kandahar and on to Gwadar and will largely benefit all associated areas of the regions (Norling, 2005, p. 24). Other related infrastructure development work of the trade corridor is also in progress with the assistance of international monetary organizations like the World Bank, the Islamic Development Bank, ADB, the European Union along with countries including US, India, Japan, Iran, Kuwait and Pakistan which are contributing in the development of trade corridors at different level. While the role of ADB in the development of road corridor in Pakistan, Afghanistan, Tajikistan, Uzbekistan and Turkmenistan is commendable (Alamgir, 2005)

5.5 Comparative Advantages of Gwadar port over other Regional Trade Corridors

Pakistan, Iran and Russia are the main regional countries which can provide trade corridor to the landlocked countries of Central Asia including Afghanistan. The proceeding analyses will reflect the viability and comparative advantages of Gwadar port over other regional trade corridors, especially of Chabahar port of Iran.

5.5.1 Russian Trade Corridor- An Option for Central Asia and Afghanistan

Before gaining independence from the Russian orbit, Central Asian economies were mostly controlled and directed by Moscow. The existing old road infrastructure in Central Asia leads only to Russia as these states' outlet was developed by Moscow in such a way that no other power could maintain trade relations with them and the Russian could easily have complete control over their natural resources for exploitation. That's

way their landlocked status along with the Russian-oriented economic approach made them handicapped (Linn, 2012, pp. 97-98). After disintegration of former Soviet Union, now these countries are trying to develop bilateral and regional trade arrangements for economic growth with China, South Asia, Europe and the Middle East while maintaining good relations with Russian Federation (Linn, 2012, p. 97). It is optimistic assumption that Gwadar port, after completion of road and rail links, will provide shortest, viable, economical and quicker transportation over the existing alternative routes of Russia or Europe where shipment is traversed from South Asia though Suez Canal and then passes the Mediterranean Sea and lastly enter into black sea port of Odessa in Ukraine (Jehanzeb, 2007, p. 94).

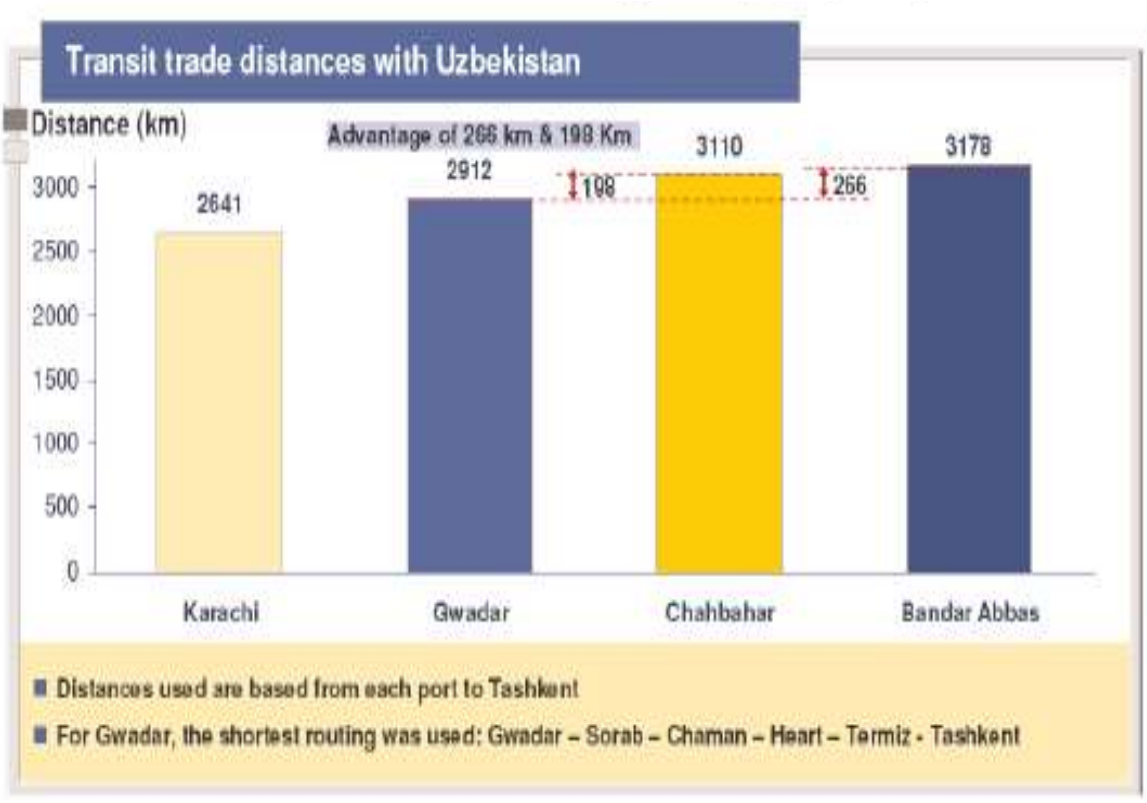
5.5.2 Iranian Chabahar Port Trade Corridor – An Option for Central Asia and Afghanistan

On geographical proximity and location, ports of Bandar Abbas, Chabahar and Karachi stand along with Gwadar port as main competitors for transit and transshipment trade facility for landlocked countries in Central Asia including Afghanistan. Professor Jehanzeb in his research explains the comparative advantages and disadvantages of Gwadar with each competing port with respect to Central Asia which are listed in the proceeding discussion (Jehanzeb, 2007, p. 92).

5.5.2.1 Uzbekistan and Comparative Advantages of Gwadar port & Disadvantages of Chabahar Port

Gwadar port provides a shortest trade route to link Tashkent with a distance advantage of 266 km over Bandar Abbas and 198 km over Chabahar port of Iran (Jehanzeb, 2007, 92). Figure 5.2. reflects detail analyses. Moreover, Uzbekistan's trade mainly consists of import and exports products of East Asia and Middle East for which Gwadar port stands to benefit from transit facility of Uzbekistan.

Figure 5.2: Gwadar port: A trade corridor for Uzbekistan.

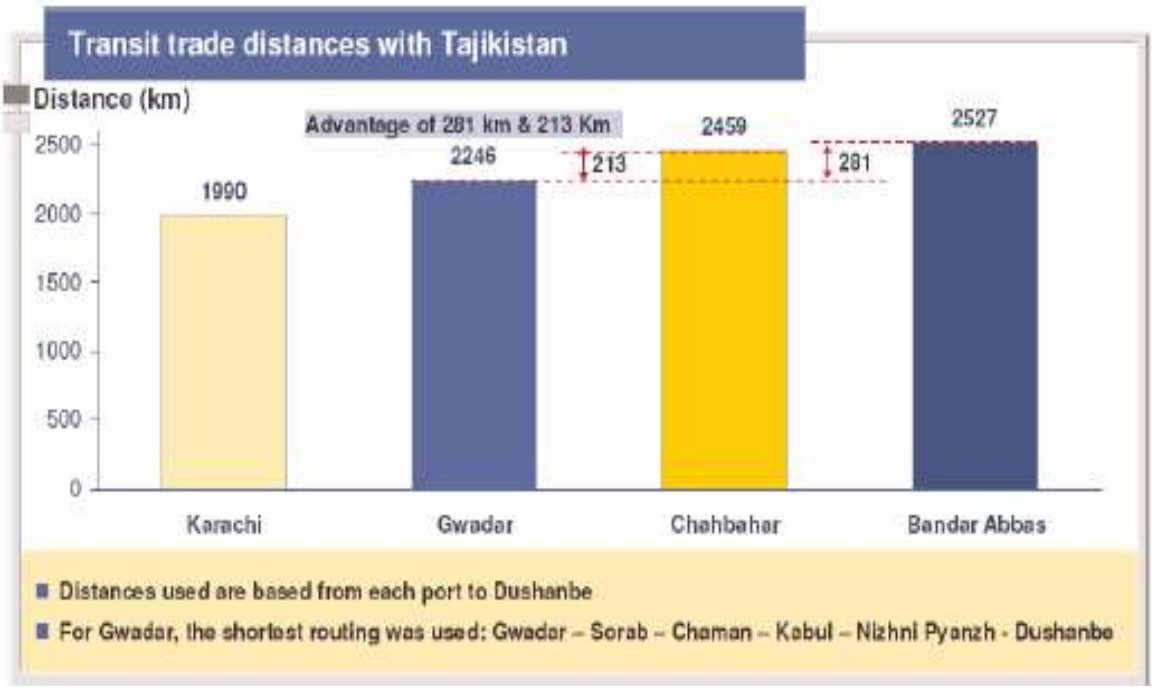


Source: (Jehanzeb, 2007, 92).

5.5.2.2 Tajikistan and Comparative Advantages of Gwadar port & Disadvantages of Chabahar Port

Again, for Tajikistan's trade facilitation, Gwadar port emerges as a shortest route up to Dushanbe with a comparative distance advantage of 281 km and 213 km over ports of Bandar Abbas and Chabahar in that order. See below Figure 5.3 for examination.

Figure 5.3: Gwadar port: A trade corridor for Tajikistan.



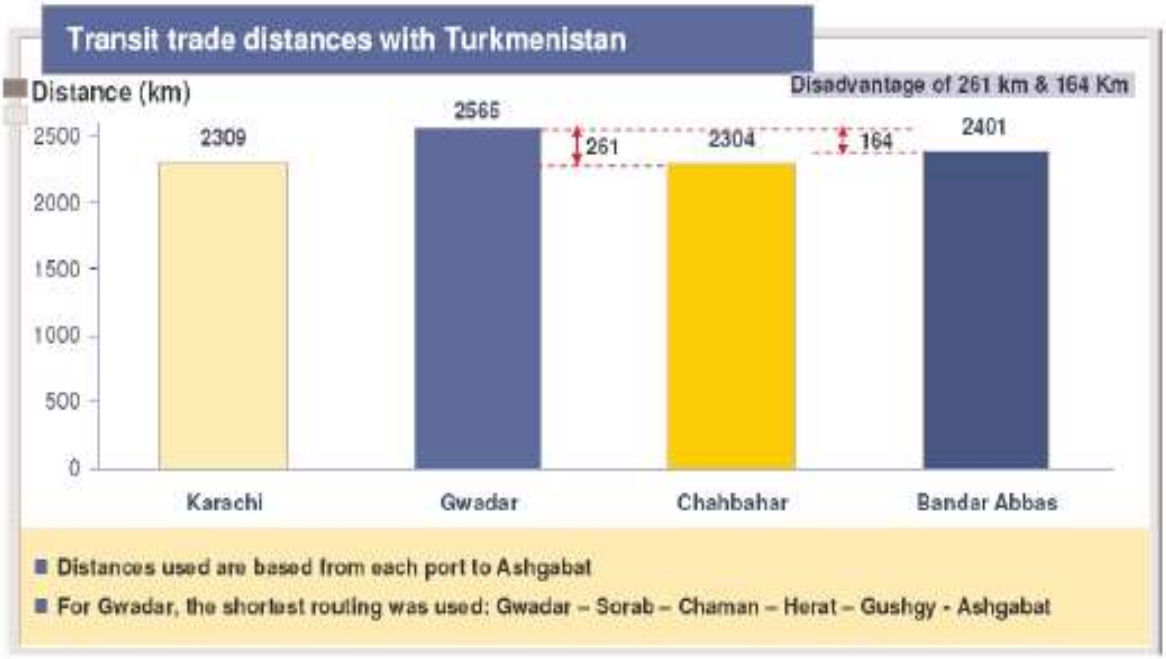
Source: (Jehanzeb, 2007, p. 93).

5.5.2.3 Turkmenistan and Comparative advantages of Chabahar & Disadvantages of Gwadar port

Turkmenistan's trade via Gwadar to Ashgabat will face distance disadvantages of about 164 km with Bandar Abbas and 261 km with Chabahar port, respectively. However, Turkmenistan's trade is trivial for Pakistan and even for Iran as the country's trade is

being routed through the established routes with the Caspian Sea. Figure 5.4 shows an overview.

Figure: 5.4: Comparative Disadvantages of Gwadar for Turkmenistan's Trade



Source: (Jehanzeb, 2007, p. 92).

5.5.3. Gwadar port Trade Corridor – An Option for Central Asia and Afghanistan

Pakistan's Gwadar port provides the most appropriate trade corridor to the landlocked countries of Central Asia and Afghanistan to gain access to the global market for export of their products. Pakistan's presence in Shanghai Cooperation Organization (SCO), Economic Cooperation Organization (ECO) and South Asian Association for Regional Cooperation (SAARC) can help link the Eurasian heartland South, East, West and Central Asia through Gwadar port trade corridor which will open new avenue for bilateral and regional cooperation among these regions. With ECO, Turkey will also be

an important transit country on East-West Routes crossing Central Asia and will help connect European market. By doing so, Turkey's trade with Central Asia will be increased (Starr, 2007, p. 8). All these economic regions make up a large share of the global economy and countries like India and China count among the most dynamic economies of the world (Linn, 2012, p. 97). In wake of former Soviet Union disintegration, CARs have found great opportunities of economic development for being land-linked to the world's dynamic economies (Linn, 2012, p. 97). From the trade corridor, they will not only benefit from access to their neighbours' goods, capital and labour markets, but also from this potential transit trade north-south corridor they will be linked to Europe, Asia and the rest of the world (Linn, 2012, p. 98).

Gwadar deep-sea port is located in the center of the vibrant regional and continental market, stretching East-West from Shanghai to Rotterdam and North-South from Barnaul to Delhi (Norling, 2005, p. 22). The port has bright prospects to appear as regional hub to serve commercial traffic to and from the Middle East, the Persian Gulf, Central Asia, Iran, Afghanistan South and East Asia.

Table: 5.3. Road Corridors from Central Asia to South Asia

Key Impact of Central-South Asian Road Corridors under Various Scenarios					
Item	**Bas Case (S0)**	**20% Reduct-ion in Traffic Flows (S1)**	**20% Redu-ction in Voc Saving (S1)**	**20% Reducti-on in Average truck load (S3)**	**20% Reduction in Traffic Flow, Voc Savings and Average Truck Load (S4)**
Combined incremental regional trade growth 2002-2010(%)	**160**	**129**	**155**	**113**	**90**
Combined incremental regional transit trade growth 2002-2010(%)	**111**	**93**	**111**	**89**	**75**
Corridor investment cost ($ Millions)	**5639**	**5639**	**5639**	**5639**	**5639**
Corridor investment as % of total investment	**4.55**	**4.66**	**4.56**	**4.67**	**4.75**
Annual travel cost savings/$ of investment 2010($)	**0.31**	**0.25**	**0.25**	**0.31**	**0.20**
Incremental annual GDP growth rate 2005-2010($)	**0.43**	**0.35**	**0.42**	**0.34**	**0.28**
Incremental annual GDP/$ of investment 2010($)	**1.05**	**0.85**	**1.04**	**0.83**	**0.68**
Incremental annual full time employment in 2010(million)	**1.86**	**1.50**	**1.85**	**1.48**	**1.20**
Total incremental export growth 2002-2010(%)15	**14**	**13**	**14**	**13**	**12**
Total incremental import growth 2002-2010(%)	**16**	**15**	**16**	**15**	**14**
Incremental revenue in 2010($ Millions)	**910**	**863**	**908**	**863**	**827**
Notes: Impact is due to Corridor over without Corridor. Voc: Vehicle Operating Cost.					

Source: (Byrd, Raiser, Dobronogov & Kitain, 2006, p. 62).

To assess the viability of North-South corridors, Asian Development Bank's study identifies 52 routes running through these corridors while connecting Afghanistan,

Tajikistan, Uzbekistan and Turkmenistan to the ports of Iran (Bandar Abbas and Chabahar) and Pakistan (Gwadar, Karachi and port Qasim) (Aziz, 2005, p. 37). Out of these 52 routes, 31 link with Pakistan's port while 21 are connected with Iranian port (p. 37). 14 routes link Tajikistan and Pakistan via Kabul to the exit point at Torkham while 7 other routes connect Uzbekistan and Pakistan and remaining 10 routes join Pakistan with the rest of the Central Asian states through Afghanistan (Eric, 2005, p. 6). The distance of these corridors from Tajikistan to Gwadar is about 13,586 kilometers. The corridors start off in Dushanbe for Tajikistan, Ashgabat for Turkmenistan, Tashkent for Uzbekistan and then go into Afghanistan from Tajikistan at Hairatan, from Uzbekistan at Hairatan and from Turkmenistan at Aqina (Aziz, 2005). All these corridors cross Afghanistan from Nangargar province to Pakistan's ports at Torkham taking route to Karachi ports or through Kandahar province of Afghanistan at Spin Boldak to Gwadar port (Aziz, 2005, p. 38).

Having evaluated the conditions and quality of the roads, ADB's study recommends investment in road to minimize operational cost of the vehicle and maximize profit. Investment amounting to US $ 12 5.6 billion would help achieve US 4 12 billion through trade over period of 5 years. Moreover, the study also suggests that rail link connecting the North-South corridors with ports in Pakistan would highly be competitive with western and northern routes to the Baltics and the Black Sea (WB, 2006, p. 61). It is pertinent to mention that these corridors not only connect Pakistan's sea ports with Central Asian States but also open up trade linkages with China via Kazakhstan and Kyrgyzstan. The blow table 5.4 manifests ten longest road corridors:

Table 5.4: Trade Corridor Linking Central Asia with Pakistan

From Tajikistan (Dushanbe) to Pakistan and Iran Ports			
Corridor		Distance	
Number	Road Corridor/Road Section	(Km)	Rank
1	Via Nizhni Pyanzh/Kabul/Spin Boldak/Karachi	1990	1
2	Via Termez/Kanul/Spin Boldak/Karachi	2095	2
7	Via Nizhni Pyanzh/Kabul/Spin Boldak/Surab/Gwadar	2246	3
3	Via Nizhni Pyanzh/Kabul/Torkham/Karachi	2251	4
8	Via Nizhni Pyanzh/Kabul/Spin Boldak/Khuzdar/Gwadar	2261	5
47	Via Gushgy/Zarnaj/Chabahar	2304	6
25	Via Gushgy/Herat and Spin Boldak/Karachi	2309	7
9	Via Termez/Kabul/Spin Boldak/Surab/Gwadar	2351	8
4	Via Termez/Kabul/Torkham/Karachi	2356	9
10	Via Termez/Kabul/Spin Boldak/Khuzdar/Gwadar	2366	10
From Uzbekistan (Tashkent) to Pakistan and Iran Ports			
Corridor		Distance	
Number	Road Corridor/Road Section	(Km)	Rank
35	Via Termez/Kabul/Zaranaj/Chabahar	2564	1
30	Via Gushgy/Herat/Spin Boldak/Surab/Gwadar	2565	2
33	Via Termez/Herat/Zaranj/Chabahar	2569	3
	Via Termez/Herat/Spin Boldak/Karachi	2574	4
31	Via Gushgy/Herat/Spin Boldak/Khuzdar/Gwadar	2580	5
41	Via Termez/Kabul and Zaranj/Bandar Abbas	2632	6
37	Via Termez/Herat and Zaranj/Bandar Abbas	2637	7
52	Via Imamnazar/Islam Qala/Bandar Abbas	3123	8
46	Via Termez/Kabul/Zaranj/Bandar Abbas	3178	9
44	Via Termez/Herat and Zaranj/Bandar Abbas	3183	10
From Turkmenistan (Ashgabat) to Pakistan and Iran Ports			
Corridor Number	Road Corridor/Road Section	Distance (Km)	Rank
15	Via Termez/Kabul and Spin Boldak/Karachi	2641	1
39	Via Termez/Herat and Islam Qala/ Bandar Abbas	2666	2
32	Via Nizhni Pyanzh/Herat/Zaranj/Chabahar	2667	3
5	Via Nizhni Pyanzh/Kunduz/Herat/ Spin Boldak Karachi	2672	4
36	Via Nizhni Pyanzh/Herat and Zaranj/Bandar Abbas	2735	5
38	Via Nizhni Pyanzh/Herat and Islam Qala/Bandar Abbas	2764	6
13	Via Termez/Herat/Spin Boldak/Surab/Gwadar	2830	7
14	Via Termez/Herat/Spin Boldak/Khuzdar/Gwadar	2845	8
18	Via Termez/Kabul/Spin and Boldak/Surab/Gwadar	2897	9
16	Via Termez/Kabul and Torkham/Karachi	2902	10

Source: (Aziz, 2005, p. 39).

The above mentioned analyses provide that the geographical location of Gwadar port, with its close proximity with Persian Gulf and Far East, natural depth and capacity to facilitate large ships make it a viable option for the Central Asian states to channelize their trade. Karachi port has some capacity and handling disadvantages as discussed in chapter 2. Whereas Russian's trade corridor is also disadvantageous for Central Asia for centuries due to their long exploitation at the hands of Russians which limited the countries progress and development. It is pertinent to mention that the post independence of Central Asia, transportation of Pakistan has considerably improved and has become far greater than even in the whole Central Asian States. The Iranian port of Chabahar and Bandar Abbas though are also viable options for Central Asia and Afghanistan, yet underdevelopment of Chabahar port and mounting international sanctions against Iran delimit regional states' economic interaction with Iran.

Based on comparative and complementary advantages, Gwadar port emerges as the most viable and cost-effective trade corridor for Central Asia and Afghanistan as it not only facilitates shipments to the Persian Gulf and rest of the world but the newly constructed ring road of Afghanistan would also facilitate the entire region to connect with India and South East Asia, via Gwadar port (Starr, 2007, p. 22).

Having discussed advantageous location of Gwadar port, it will not be an exaggeration to estimate that all trade to and from Central Asia and Afghanistan will be transported through this shortest and viable trade route which will further benefit to Pakistan.

Following estimated trade expectation would have far-reaching impacts on Gwadar port:

5.5.3.1. The region estimated production of dry cargo is greater in quantity than liquid cargo which is normally transported in mammoth ships. This means deep sea port like Gwadar will prove to be a viable and better choice for regional countries.

5.5.3.2. Countries like Kazakhstan and Kyrgyzstan produce more dry cargo than the rest of Central Asian states. In this context, Gwadar again emerges a practical transit route for these two states which are geographically closer with port than other regional countries.

5.6. Regional Trade Potential

5.6.1. Trade Potential of Pakistan

Pakistan's port facilities, restored and developed roads and huge textile industry along with modern infrastructure make it potential country to contribute substantially to the expansion of continental and regional trade. It is estimated that Gwadar Deep Sea Port with restoration of trade corridor would enhance cargo trade volume from 200,000 twenty-foot containers to 295,000 by 2015 approximately. Trade from Gwadar port to Central Asia via Afghanistan would also facilitate Afghan products for exports to the regional and world markets. Another complementary advantage would be in the cotton and textile industry which would regionally be traded and promoted and the entire region as well as Pakistan would generate revenue in Billions (Norling, 2005, p. 36).

5.6.2. Trade Potential of Afghanistan

With support of international donors and partners, Afghanistan has embarked upon development of mega communication and transportation projects to seek new avenues for boosting its economy and exploit its untapped natural resources including deposits of copper, high-grade iron ore, marble, oil, gas, coal and precious stones (Jehanzeb, 2007, p. 97). Once peace is ensured in Afghanistan, as the peace process are progressing on tripartite agreement between US, Afghan government and Taliban, the trade corridor will not only expand Pakistan and Afghanistan bilateral trade up to 85 percent of total trade of Pakistan but it will also trigger a formidable momentum of trade activities in the region.

5.6.3. Trade Potential of Central Asia

Central Asian States have also some great potential in the below given products and the region have some complementary trading products which could trigger expansion of regional trade. Each country's trade and complementary advantages are discussed in the proceeding box 5.1.

Box 5.1: Complementary Advantages of Central Asian States.

EXPORTS TO AZERBAIJAN	IMPORTS FROM AZERBAIJAN
The country has potential market for Pharmaceutical products, fabrics, cloth accessories, apparel, rice, matches, textile yarn, handicrafts, terephthalate, polyethylene and others.	The country has some complementary products to export to international markets like Cotton, alloys, aluminum, organic chemicals and others.
EXPORTS TO KAZAKHSTAN	**IMPORTS FROM KAZAKHSTAN**
The country has potential market for :foot wear, apparel, textile yarn, cloth accessories, fabrics, mounting of plastic, frames, tobacco products, essential oil, pharmaceutical products, perfumes, leather products and leather manufacturing machinery.	The country has complementary export products like Electrical appliances, combed polypropylene, polyester fiber not carded, manufactures of metal, iron and steel, cotton, salt of ore metallic acids, polyvinyl chloride un mix subset, special machinery for particular industry, paperboard etc.
EXPORTS To TAJIKISTAN	**IMPORTS FROM TAJIKISTAN**
The country has potential market for the products of apparel and cloth accessories, Textile yarn and fabrics, tobacco manufacturers, leather and leather machinery and pharmaceutical products.	The country has some complementary products for export like cotton American (staple), Chemical material& products, sunflower seeds etc.
EXPORTS TO TURKMENISTAN	**IMPORTS FROM TURKMENISTAN**
The country has potential market for Textile yarn & fabrics, apparel & cloth accessories, edible products, footwear, pharmaceutical products, surgical instruments, fruits, vegetables etc.	The country has some complementary export quality products like cotton, Cotton American (staple), seeds, sunflower, cinema film in roll unexposed etc.
EXPORTS TO UZBEKISTAN	**IMPORTS FROM UZBEKISTAN**
The country has potential market for the products of leather & leather manufactures, Tobacco manufacture, fabrics, textile yarn, travel goods, apparel, hand bags, footwear, cloth accessories, perfume material, surgical instruments, baby milk, essential oil, sports goods etc.	The country has some complementary export products like Natural honey, waste, goat skins raw, cotton American (staple), cotton, urea, polystyrene, etc.

Source: (FPCCI, 2010)

5.7. Economic Prospects of the Trade Corridor

Trade corridor from Gwadar port up to Central Asia will restore old silk routes to stimulate regional and cross-continental trade which will further result in the enhancement of economic activities to support peace and stability in the region (Kazi, 2006, pp. 77-78). This could be realized in the context of today's expanded consumer market which pressed energy consuming countries like China, India and of Europe to ensure continual supply of energy to their industries to meet increased demand of goods and production for sustaining their modernization drives, as well. Central Asia in this context becomes a viable option with its abundance energy and other natural resources (Norling, 2005, p. 20).

5.7.1. Continental Economic Prospects of Trade Corridor

Revamping of great continental trade corridor linking Europe, Russia, Central Asia, Afghanistan, China, Pakistan, India and the Middle East will uplift economic development of the countries where the corridor will traverse. According to the available statistics and estimates, trade on continental level will develop and increase between Europe and Asia from total volume of 300 million tons in 2000 to 460 million tons by 2015. Likewise in the same period, container trade will expand from the total volume of 8.5 million tons to 17.9 million tons and 3.5 million tons to 7.3 million tons in the East-West and North-South directions respectively (Norling, 2005, p. 20). Moreover, it was revealed in an international conference statistics that continental trade linking North-South corridors would be expanded up to 15 percent which is equivalent to US $ 12 billion if present ongoing infrastructural development completes (Byrd, 2006, p. 55).

The conference also identified five potential gains from continental trade: (Norling, 2005, p. 30).

5.7.1.1: Trade corridor would help expand continental trade volume which in return provide greater accesses to new technology and earn foreign exchange revenues;

5.7.1.2: Trade corridor would link both the North-South and East-West trade routes which would provide greater access to new markets;

5.7.1.3: Trade corridor would facilitate China's trade with Europe and Russia's trade with South Asia;

5.7.1.4: Trade corridor would benefit regional states as located in the heart of a dynamic continental market and would help reap substantial transit revenues and;

5.7.1.5: Trade corridor would facilitate Central Asia and Afghanistan with access to the international market for their economic development.

5.7.2 Regional Economic Prospects of Trade Corridor

Economic prospects arising from the trade corridor are immense for South, East, West and Central Asia. For regional trade corridor, 13,586 kilometers of roads are required divided between Afghanistan, Pakistan and Central Asia. Specific potential gains from regional Trade can be enlisted as:

5.7.2.1 Impact on Regional Trade Growth

According to the estimates of ADB, the completion of trade corridor will enhance regional trade up to 160 percent and combined transit trade will increase up to 113

percent and total exports and imports of the region will expand up to 14 percent (US $ 5.8 billion estimated) and 16 percent (US $ 6.7 billion estimated) accordingly (Aziz, 2005, p. 9). Moreover, the ADB also estimates that in coming years the road corridors will boost export from Afghanistan and its neighbors by 14 percent and imports of these countries by 16 percent which are equal to US $ 5.8 billion and US $ 6.7 billion in value in that order (Starr, 2007, p. 8).

5.7.2.2 Impact on Regional Cooperation

Based on close geographical proximity, historical linkages and cultural affinities, trade corridor can further enhance and cultivate stronger trading and commercial ties with Central Asia. Trade corridor provides the shortest trade and transit trade route facility to Central Asia along with Afghanistan through the Gwadar port. The corridor is located in the main parameters of commerce to give rise to transnational trade and economic activities. There is optimistic consensus among the researchers that trade corridor benefiting India for direct transit trade facility with Afghanistan and Central Asian countries via Pakistan will bring connectivity among regional organizations like SAARC, ECO and SCO for robust regional economic integration which in the long run will broaden intra-regional cooperation. Maood Aziz in his research explains the following impacts of trade corridors on different sectors of economy.

5.7.2.2.1 Impact on Regional GDP Growth

The impact of trade corridor on the regional GDP will also be very significant as combined GDP of the participating regional countries will grow by 5 percent per annum.

Regional benefits are substantial against estimated trade corridor cost which is about US $ 5 billion for the whole region. As these corridors will pass through poor and underdeveloped areas which would help spur sustainable economic development in these regions which in return increase per capita income of the associated regional communities (Aziz, 2005, p. 41)

5.7.2.2.2 Impact on Regional Employment

Another essential benefit of trade corridor is creation of jobs in the region. The corridor will result in expansion of regional trade which in return will provide secure jobs to the people of the regions. As road construction will pass through different parts of the region, including rural areas which are normally poor and backward, creation of jobs for adjacent communities would help increase their living standards. According to the estimates, during the time of trade corridor construction, 12 million persons will be engaged on temporary employment while 15 million persons will get permanent employment for reconstruction, maintenance and infrastructure development (Aziz, 2005, p. 41).

5.7.2.2.3 Impact on Regional Freight Growth

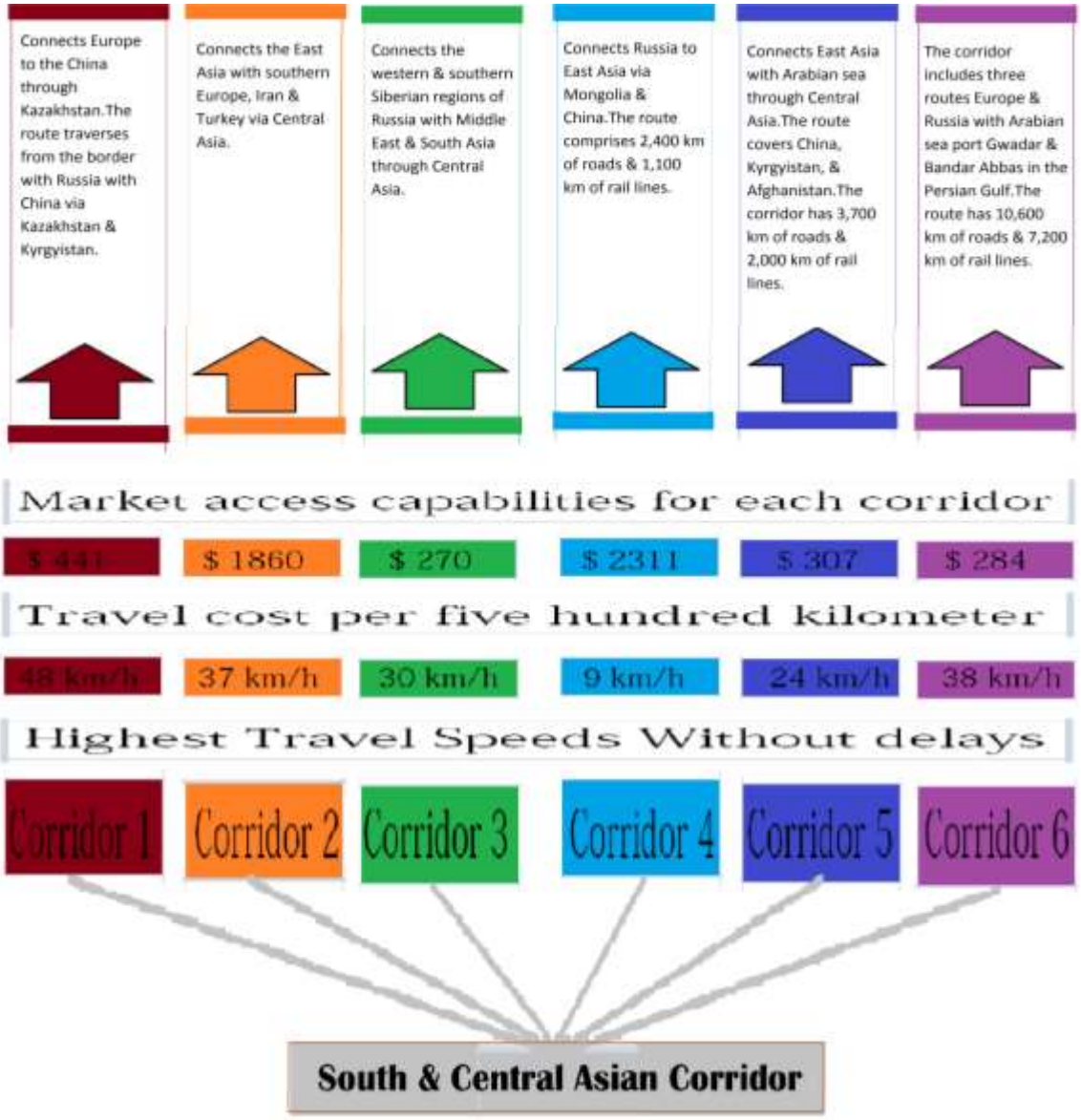
The landlocked geographic character of Central Asia attracts other regional countries to develop new ports to cater the emerging transit requirements of the region. The development 52 trade routes linking Gwadar port can play a key role to facilitate trade of ECO. According to ECO study, 40 percent of total transit will be channeled in this direction. According to ADB statistics, construction of road corridor would enhance two-way freight up to 4.594 million tons for Pak-Afghan on spin boldak and Torkham area

while freight between Uzbekistan-Afghanistan and Turkmenistan-Afghanistan would increase up to 923,000 tons and 740,000 tons respectively (Aziz, 2005, p. 44).

5.7.2.2.4 Impact on Regional Travel Time and Cost

In transportation, traveling time and cost are the main determining factors to promote regional trade. Presently, traveling time and cost are considered main impediments for promotion of the regional trade. After the completion of trade corridor with all connecting routes, will considerably reduce travelling time up to 139 hours from Central Asia to Gwadar port. In terms of travelling cost, US $ 1.728 billion will be saved in the regional trade. With improved transportation infrastructure, the entire regional trade potential could easily be exploited for sustainable economic growth (Aziz, 2005, p. 44). Figure 5.5 shows viability of each existing and proposed corridor in the region and figure 5.6 reflects impact of the corridor on time and cost. (See Appendix 10.8 for map of existing and proposed corridors in the region).

Figure 5.5: Viability of Existing and Proposed Corridors in the Regions



Source: (ADB "Economic Corridor Development for inclusive Asian Regional Integration", 2014, p. 93 [Compiled and Designed by Kaleem, 2014]).

5.7.2.2.5 Impact on Regional Revenue Generation

Expansion in regional trade will generate governmental revenues that will be collected by respective countries as transit and duties fees levied on road, rail, fiber optic and electric

line usage. According to the available statistics, revenue on the regional level based on current tariffs and transit fees (See Appendix 10.4 for port terms), will increase up to US $ 208 million which will further help develop infrastructure on different parts of the region (Aziz, 2005, p. 45). The revenue will largely support to the regional economies, especially countries like Afghanistan, Central Asia and Pakistan where the governments could not deliver adequate services of health care, education and social welfare due to budget constraint. Below table 5.5 and 5.6 show economic impact of the trade corridor in detail.

Table 5.5: Economic Impact of the Road Corridor on the Region

Economic Impact on Regional Trade	Figures
Combined incremental regional trade growth 2002-2010 (%)	160
Combined incremental regional transit trade growth 2002-2010 (%)	111
Corridor investment cost (in million dollars)	5639
Corridor investment as % of total investment	4.55
Annual travel cost saving/$ of investment 2010 (in dollars)	0.31
Incremental annual GDP/$ of investment 2010 (in dollars)	1.05
Total incremental export growth 2002-2010 (%)	14
Total incremental import growth 2002-2010 (%)	16
Incremental revenue in 2010 (in million dollars)	910

Source: (Aziz, 2005, p. 42).

Table 5.6: Impact of Trade Corridor on Regional Economic Development.

No	Regional Economic Measures	Potential Gains
A	IMPACT ON EXPORT	
	Increase in annual exports with corridor ($ million)	5768
B	IMPACT ON IMPORT	
	Increase in annual import with corridor ($ Millions)	6720
C	IMPACT ON REGIONAL TRADE	
	Increase in annual intraregional exports with corridor ($ Millions)	2847
D	IMPACT ON GDP	
	Increase in GDP 2005-2010 ($ Millions)	5927
	Annual real GDP growth/ 2005-2010 without corridor (%)	4.60
	Annual real GDP growth/ 2005-2010 with corridor (%)	5.03
	Difference in annual GDP growth with corridor (%)	0.43
E	IMPACT ON EMPLOYMENT	
	Total full time employment (million person)	1.863
	Temporary employment/ road rehabilitation (million person days)	12.18
	Permanent employment/ road maintenance (million person days)	14.99
F	IMPACT ON TOTAL FREIGHT (000 tons)	
	Tajikistan – Afghanistan border (Nizhnt Pyanzh-Shirkhan Border)	222
	Afghanistan – Pakistan border (Spin Boldak- Chaman)	2,061
	Afghanistan- Pakistan border(Torkham)	2533
	Uzbekistan- Afghanistan border (Termez- Hairatan)	923
	Turkmenistan- Afghanistan border (Imamrizar- Aquatria)	252
	Turkmenistan- Afghanistan border (Gushgy- Torghandi)	488
	Afghanistan- Iran border (Zaranz-Milak)	848
	Afghanistan – Iran border (Islam Qala- Dogharun)	123
G	IMPACT ON TOTAL TRAVEL TIME AND COST	
	Total road distances (km)	13586
	Total time saving (hours)	139
	Time saved per km (hours)	0.000
	Total travel cost saving ($ Millions)	1728.3
H	IMPACT ON STATE REVENUE	
	Annual increase in state revenue ($ Millions)	940
	Total cost of corridor construction ($ Millions)	5639
	Corridor Instruments as % of total investments (2000-2010)	4.55

Source: (Aziz, 2005, p. 46).

5.7.3 Economic Prospects for Pakistan

In the establishment of trade corridor, Pakistan can generate revenues up to one billion US dollars per annum by facilitating regional countries with transit and trans-shipment services (Jabri, 2014). To reinvigorate trade corridor, Pakistan has already singed a transit trade agreement with Afghanistan, Afghanistan-Pakistan Transit Trade Agreement (APTTA). For about 60 million inhabitants of the region, such wide trade agreement would prove to be effective for bringing economic growth and political stability in the region which are indispensable for prosperity (Linn, 2012, p. 96). Countries like Afghanistan and Central Asia which are landlocked, would largely be benefited from such facility to gain access to the regional and world markets for the promotion of their products (p. 97). Moreover, under such trilateral agreement, work on the construction of 20 km long road alongside Wakhan border is under construction to facilitate trade in the region (Kazi, 2006, p. 91).

For Pakistan, Afghanistan is the potential market for Pakistan's export products including foods, textile, pharmaceutical, petroleum and construction material (HASHMI, 2013). As a tactical move, government of Pakistan has written off a US $ 10 million loan to Kyrgyzstan to encourage bilateral trade. Pakistan is also facilitating Kyrgyzstan's government in the development of Almaty-Bishkek-Kashgar-Karakoram-Islamabad-Karachi road network. Currently a substantiation volume of trade is being routed through this road which would further be diversified once Gwadar port is fully operationalised. According to estimates, development of Gwadar port would generate trade at a huge

amount which would usher a new era of opportunities for foreign direct investment in both South and Central Asia (Starr, 2007, p. 91).

5.7.4 Economic Prospects for Afghanistan

Afghanistan once occupied strategically an important place and located in the middle of the world's richest civilization, art, culture and of long distance trade (Aziz, 2005). Being situated between China, India in the East and Europe in the West, Afghanistan remained important place to facilitate Silk Road trade of products, artisans, exchange of ideas, civilization, techniques, tools and access to the great ancient cities in Central Asia (p. 33). Again, situated on the periphery of Central Asia and South Asia, Afghanistan today serves as a main transit country to the regional as well as continental trade network. The geographical location of Afghanistan at the crossroads of both the East-West and the North-South trade corridors is of immense importance. Afghanistan's 2500 km long border with Pakistan can facilitate trade from Pakistan and offers transit and trans-shipment facilities to Central Asia. Recently trade between Pakistan and Afghanistan has grown from US $ 1110.9 million in 2005-06 to US $ 2.4 billion in 2011-12 (Hashmi, 2013). Pakistan provides main export market to Afghan products as it earns US $ 71 million per annum from its export products to Pakistan, equal to 21.8 percent of all Afghan exports. The export products of Afghanistan comprise of raw material used in manufacturing and processing in Pakistan. Having witnessed decades of turmoil and instability, Afghanistan with support of global partners is engaged on the path of reconstruction to provide a secure and modern infrastructure of growing regional trade and provide stable environment to its people. For re-building old historic trade corridor,

Pakistan and Afghanistan has signed bilateral trade agreement called Afghanistan-Pakistan Transit Trade Agreement (APTTA) in 2010 to speed up trade in the region. Under the agreement, Afghanistan will be provided transit trade facility to seek access to the markets of India, China and rest of the world via Gwadar port (Ministry of Commerce, 2010, p. 26). With such trade facilitation and arrangements, both Pakistan and Afghanistan would be able to increase their bilateral trade up to US $ 5 billion by 2015 (Ministry of Commerce, 2010, p. 26).

For trade corridor, Afghanistan, being located in the center, would comparatively be in advantageous position. According to the estimates of ADB, the 3,657 km long road corridor would link Afghanistan with regional export markets and its export would increase by 202 percent and imports by 54 percent and would translate into a potential benefit of US $ 592 million in exports and US $ 1,318 million in imports (Norling, 2005, p. 30). The construction of road corridors would help increase GDP per capita up to 36 percent while 771,000 permanent employments would be in addition to support its economy (Starr, 2007, p. 9).

Moreover, construction of alternative routes running through Afghanistan, as incorporated in the strategic planning of the road project, would not only link North with South and East with West but would also reduce 71 hours travelling time which will result in US $ 746 million (43 percent of the total savings for the region) (Aziz, 2005, p. 44). Regional trade benefits for Afghanistan are immense as the corridor will increase US $208 million revenues (about 23 percent of the total revenues for the region) to

strengthen Afghanistan's economy (Aziz, 2005, pp. 9-13). This is not a trivial matter for Afghanistan as the revenue generation from duties and transit fees would enable Afghan government to initiate developmental programs in the country and strengthen its state institutions (Starr, 2007, pp. 9-10). Presently, all operational expenses and salaries in Afghanistan are being paid by US government and after development of such trade corridor, the government would be self-sufficient to run its institutes from its own means and resources. Since 9/11, Afghanistan is largely dependent upon US for continuous assistance to recover its economy. Afghan government knows the continual US support is still required for socio-economic development and for the maintenance of their policy balance (Ghaus, 1988, p. 152). Being a landlocked, Afghanistan will be dependent on the imports and the aid from the donor countries for which Gwadar appears to be a viable port to provide transit facilities to Afghanistan (Matinuddin, 1991, p. 308). In this context, Afghan government will always prefer to renew its transit agreement with Pakistan for being a cost effective trade transit route. It will not be wrong to state that trade corridor for landlocked countries are a matter of life and death in the present global scenario where they can accrue benefits from the economic integration.

5.7.5 Economic Prospects for Central Asia

Before the breakup of the former Soviet Union, Central Asian States were completely cut off from the rest of the world as all communication infrastructures had already been developed in such a way to contribute to the economic development of Moscow and trade with southern neighbors like Afghanistan, China, Iran and Pakistan via Afghanistan was insignificant (Maria Sultan, personal communication, October 25, 2012. All

communication links and infrastructure in Central Asian region was interconnected with former Soviet Union to restrict its trade relations with neighboring countries.

Demise of former Soviet Union opened up new opportunities of cross-border trade of Central Asia with the region in particular and rest of the world in general. As mentioned above, Central Asian States have some complementary and competitive Trade advantages over regional countries and can play a significant role in the regional economic (Norling, 2005, p. 20). Moreover, geographical location of Central Asia can bring Euro-Asian economic integration as the region lies in the periphery of Europe and Asia (Linn, 2012, p. 97). Economic impact of trade corridor on each Central Asian state is discussed below to substantiate above arguments.

5.7.5.1 Potential Gains for Kyrgyzstan

Kyrgyzstan is considered a liberal trade regime in the region and the only WTO member, yet it has failed to benefit from regional and continental trade. This is due to restrictive trade policies followed by its neighboring countries, especially by Uzbekistan. Complicated custom procedures along with inefficient and expensive transportation network could not allow Kyrgyzstan's trade to flourish. Motor-vehicles account for about 95 percent of the country transports and face severe borders delays and excessive bureaucratic formalities (Norling, 2005, p. 32). Establishment of trade corridor with removal of barriers to facilitate trade and economic activities would largely contribute to increase total export earnings by 1.7 percent approximately and decrease import costs by

2.7 percent. The corridor with favorable economic and trade policies would enhance GDP by an estimated 2.3 percent.

5.7.5.2 Potential Gains for Tajikistan

Tajikistan's miserable economic growth has been affected by its isolation. Uzbekistan's protectionism, civil war during the 1990s, instability in Afghanistan and its mountainous terrain left Tajikistan with no option but to follow isolation. Furthermore, poor transportation network did not link the country to an emerging market in Xinjiang. It is estimated that present trade corridor linking entire Central Asian states with South Asia, Far East Asia and beyond would bring revolution in trade expansion. In this regard, construction of Kulma Pass linking Tajikistan with Xinjiang and the bridges constructed over the Panj River have facilitated the country to engage in the continental trade. The corridor with favorable transit arrangements would help the county in poverty reduction from 64.9 percent to an estimated 35-40 percent and the corridor would also create about 250,000 to 300,000 employment opportunities in the country (Norling, 2005, p.33).

5.7.5.3 Potential Gains for Uzbekistan

Uzbekistan unlike other Central Asia states is geographically located in a better place. Being less mountainous terrain than some of its neighbors, the county could easily participate in the continental trade. Uzbekistan is situated in the heart of Central Asia and has a comparatively well developed infrastructure. Its roads network and railway system is quite intact and developed. Absence of regional trade and economic integration did not support Uzbekistan to capitalize its geostrategic importance over its neighbors. Moreover,

Uzbekistan's restrictive trade policies not only hampered its economy but it also restricted growth of the regional trade. According to IMF estimates, trade corridor with liberal economic policies would increase US $ 2 billion trade of Uzbekistan (Norling, 2005, p. 34).

5.7.5.4 Potential Gains for Kazakhstan

Though quantum of Kazakhstan's trade with China and Russia is substantial, yet its trade and economic ties with Central Asian states and South Asia is too low. Its trade with neighboring countries is negligible to merely 2 percent. According to experts estimates Kazakhstan along with Uzbekistan stand to benefit from trade potential of South and East Asia with an estimated increase up to 10-15 percent. Kazakhstan's trade is routed to East-West continental trade from China to Russia and Europe. However, Kazakhstan's recent engagement in the North-South corridor from Almaty to Delhi reflects that the country is now realizing to capitalize from this corridor which is comparatively economical and efficient than East-West. According to the estimates of UNDP, after completion of the trade corridor, Kazakhstan could easily enhance its GDP by up to 20 percent (Norling, 2005, p. 34).

5.7.5.5 Potential Gains for Turkmenistan

Turkmenistan has pursued a command economy which discouraged investors from its Trans-Afghan pipelines and other projects. If the country opens up trade with South and East Asia, its untapped energy deposits could uplift its economy to new heights. Moreover, apart from its energy resources, Turkmenistan has the potential to provide a

viable trade route linking Azerbaijan-Georgia-Europe transit corridor which would bring manifold economic benefits to the proposed trade corridor as far as continental trade and economic cooperation is concerned (Norling, 2005, p. 35).

After completion of transport projects in Central Asia, the overall trade of Central Asia would expand by US $ 12 billion, improving 80 percent in economic growth (Starr, 2007, p. 7). According to a study, the construction of road corridors can expand export and import in Central Asia up to 7 percent and 10 percent respectively (MacKellar et al., 2000, p. 15). Benefits of North-South routes linking Europe, Russia, Persian Gulf and Arabian Sea via Gwadar port can be accrued by Kazakhstan and Uzbekistan as both countries are best located to expand trade with East and West through the new road and railways routes (Starr, 2007, p. 8).

5.7.6 Economic Prospects for India

Pakistan's pivotal role to act as a trade corridor between South Asia on the one hand and West and Central Asia on the other will be a pushing factor to bring India for expansion of economic and trade cooperation. Pakistan and India both understand that desire for bilateral peace and stability would not be achieved unless economic and trade cooperation is strengthened (S. K. Agarwal, personal communication, May 3, 2014). Conversely, India also fully realizes that due to its historic cultures, religion, diplomacy and close geographical proximity with landlocked countries of Central Asia including Afghanistan, Pakistan has an edge to function as a bridge through its trade corridor between South and Central Asia.

Being one of emerging economies in the world, India needs to improve infrastructure in road, railway to keep up its growth rate. Central Asian States' access to the Indian market would expand regional trade and pave the way for prosperity in the region. India's trade with landlocked countries of Central Asia and Afghanistan has got momentum during the last three years and has grown on average by about 49 percent annually (Starr, 2007, p. 7). India's economic stakes in Central Asia is reflected in table 5.7. Moreover, Gulshan Sachdeva's estimates reflect that Indian trade with Afghanistan, Central Asia, Pakistan, Iran, Russia and also with Europe will increase by 26 percent by 2014-2015, equivalent to US $500 billion per annum. The trend will continue to grow further in coming years. It is also estimated that in case only 10 percent of the above estimated trade is carried out then even it would bring benefit up to US $50 billion in value (Starr, 2007, p. 7).

Table 5.7: India Trade with Central Asia from 2001-2010 (In US $ million)

Country	2001-02	2003-04	2005-06	2007-08	2009-10
Uzbekistan	23.80	42.84	50.57	56.40	71.82
Turkmenistan	6.30	28.55	31.18	44.66	38.04
Tajikistan	2.56	8.42	12.13	22.11	36.61
Kazakhstan	53.09	84.07	117.16	188.74	305.72
Kyrgyzstan	11.52	38.74	29.57	32.48	21.51

Source: (Foshko, 2009, p. 50).

India and Pakistan are the largest economies in South Asia have comparative trade and economic advantages which could be exploited to achieve sustainable economic growth not only in South Asia but also in Central, Far East and West Asia with tremendous trade

market of India and unique geography of Pakistan. India and Pakistan's bilateral trade potential can be analyzed in below table 5.8.

Table 5.8: India's Trade with Pakistan from 2000 to 2011(In US $ million)

Bilateral Trade						
Bilateral Trade	Excluding Mineral Fuels		Mineral Fuels		Including Mineral Fuels	
Period	2000	2011	2000	2011	2000	2011
Export	162	1,659	0	19	162	1,678
Import	209	1,972	22	58	231	2,030
Total Trade	371	3631	22	77	393	3708
Unexploited Trade Bilateral Trade Potential						
Unexploited Trade Potential	Excluding Mineral Fuels		Mineral Fuels		Including Mineral Fuels	
Export Potential	15,966		9,392		25,358	
Import Potential	3,846		1,290		5,136	
Total Trade Potential	19,812		10,682		30,494	

Source: (Taneja, Mehra, Mukherjee, Bimal & Dayal, 2013, p. 8).

Box 5.2. A Case Study: The Impact of Trade Corridor on Cambodia.

A study conducted by the Mekong Institute on the economic impact of trade corridor known as ' the Southern Economic Corridor (SEC)' on Cambodia noticed a substantial improvement in the living standards of people residing along the corridor along with development in healthcare, education, infrastructure and public service facilities. The corridor also saved travelling time and reduced trade costs at cross-border points. Though Cambodia is contributing less in the economic development of the region yet the corridor has not only strengthen Cambodian economy but development of the corridor has bright prospects to generate greater trading opportunities for Cambodia in the long run if bottlenecks and issues are resolved as envisioned.

Source: (Phyrum, Sothy, & Horn, 2007).

5.8. Conclusion

Transports corridors can achieve much more thank linking regions. Today trade corridors are considered economic corridors because these corridors have not only facilitated regional integration and trade expansion but have also contributed a pivotal role in poverty reduction, especially in catchment areas. The economic impact of trade expansion across the emerging transit corridors will affect each participating country differently. From trade corridors, from Gwadar port to Afghanistan, Central Asia, Pakistan, Kazakhstan, Tajikistan, Kyrgyzstan, Uzbekistan, Turkmenistan, Iran and even India stand to benefit as the landlocked desperately need direct access to the sea and vast market of India, China and Pakistan to improve their economy from the present stand point. Inclusion of India is inevitable because of its growing economy and middle class consuming market. Moreover, trade corridor will equally benefit extra-regional states like China, Russia, Middle East and countries in Far East Asia (Aziz, 2005, p. 34). Through new roads, China, Europe, India and Russia can easily exchange high value goods more efficiently which was earlier possible by shipment or only by railway. The trade corridor

will enable Afghanistan to serve as a land bridge between South, Central Asia and the other neighboring countries for economic integration and development of other sectors of economy (Aziz, 2000, 37). Trade expansion and diversified economic activities from the trade corridor will strengthen the sovereignty of Central Asian states and Afghanistan. Trade and economic activities in the region will be vital to the long-term visibility of Central Asia as well as Afghanistan as independent entities to pursue independent and multi-dimensional foreign policies. Overall, the trade corridor is a beacon of hope for regional economic integration to bring peace, stability and socio-economic development in which Pakistan with Gwadar port stands to benefit largely.

Since, 1990, the government of Pakistan's initiatives and measures to improve and develop roads, highways, expressways, motorways, airports, new airports and sea port are meant to facilitate expanded regional transit trade which has been continuously expanding about 7 percent annually. The benefits stem from the development of transport corridors are substantial for South Asia, Afghanistan, Central Asia and China, as well. However, practical materialization can only be achieved if all participating countries cooperate with each other and give due consideration to the infrastructural side of the project to reap dividends.

CHAPTER - 6

GWADAR PORT: A VIABLE ENERGY CORRIDOR

"We can create a more sustainable, cleaner and safer world by making wiser energy choices".

- Robert Alan Silverstein

6.1. Introduction

Economic globalization and rapid population growth worldwide has resulted in fast consumption of energy resources in the world. Regions of the world, especially Asian, are facing energy shortage to uplift their industrial output for economic development. Today the availability of energy is vital and is one the main component of a country's economic cycle. Global appetite for energy has substantially increased and in this fierce competition, each state is evolving strategies to ensure supply of energy in a secure environment at economical price (Jackson, 2007, p. A1). If energy resources are not available within a country's boundaries, alternate sources, especially import from energy rich countries then are preferences of the state to meet emerging demand of its various sectors of economy. Over few decades, global energy consumption has steadily increased and almost double since 1970 (Cheema, 2011, p. 1). At present, the world has no other alternate energy options in place but to establish a safe and economical energy corridor to import and transport energy from resource rich countries to energy starved countries.

Energy and economic growth are closely linked. Apart from industrialized world, developing countries will continue to pursue their economic goals towards industrialization. According to report of Exxonmobile, by 2020 the world demand for energy would increase about 40 percent (Energy Trends, 2004, p. 2). The report also predicts that in the same period the global consumption will reach up to 300 million

barrels of oil-equivalent energy per day. Almost 60 percent of energy demand would be mitigated from oil and gas as these primary sources of energy are in abundance and economical to mitigate world's energy supply. According to Shirley Ann Jackson, President Rensselaer Polytechnic Institute, says that over the past century there is a steady increase in world's energy consumption as from1950 to 2000 the population grew from 2.5 billion to 6 billion which had far-reaching impacts on water usage (increased three-fold), seafood consumption (five-fold) and automobiles utility which rose from 53 million to 539 million (2007, p. A1).

The sources of energy fall into two category: non-renewable energy which includes petroleum, coal, natural gas, nuclear where as renewable energy consists of solar thermal power, solar photovoltaic, passive solar air and wind, water heating, hydropower, ocean energy, biomass, geothermal and waste to energy (Keoleian, 2008, pp. 3-4). All these forms of energy in one way or the other support economic development as energy is equally required to run the household, agriculture and industrial sectors. Regular and uninterrupted supply is always ensured for greater economic sustainability.

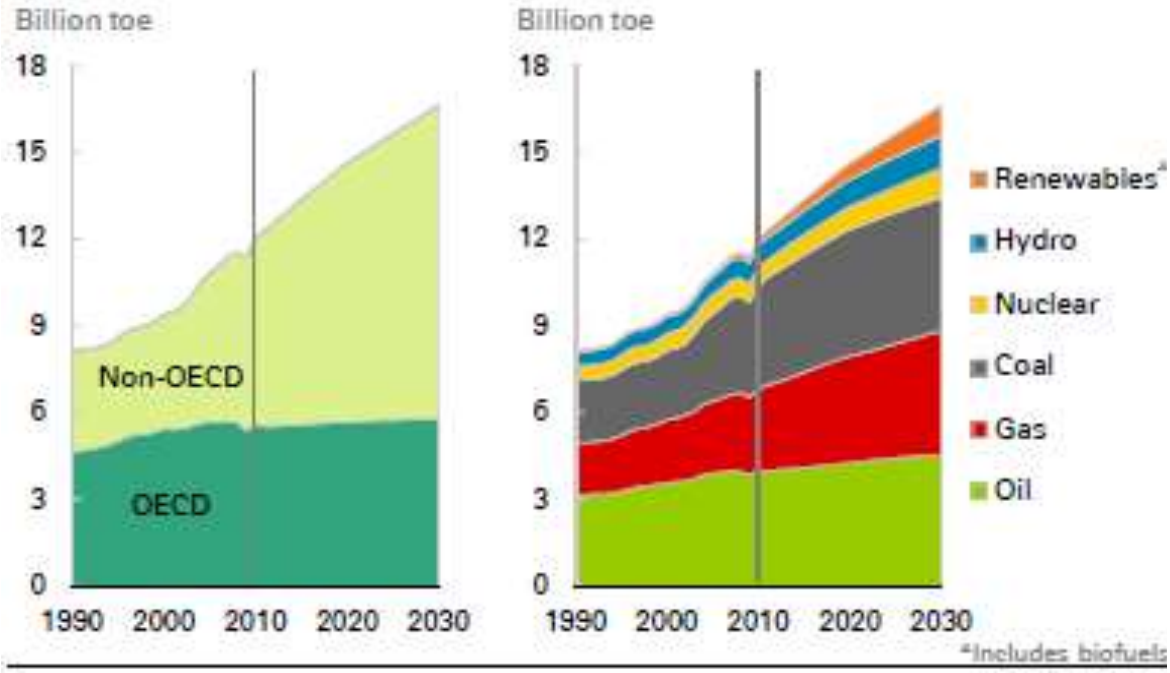
Explaining the significance of energy in the economic system has been highlighted by a number of researchers in their work. According to Stern and Cleveland (2004), there is a strong inter-dependence and close association between economic growth and energy consumption (p. 5). The explicit contribution of energy for economic development was realized during the first oil crisis in 1973-74 thereafter all countries tried to ensure continuous supply of energy for their energy-dependent production functions (Tintner et

al., 1974, pp. 151-161; Berndt and Wood, 1979, pp. 342-354). According to estimates of International Energy Agency (IEA), 80 percent of the energy growth by the end 2020 will considerably improve the living standards of people scattered around the world (2012). The estimates also suggest that the world demand for energy will increase three fold by 2035 (p. 2).

Given the growing energy need on global level, states facing energy shortage, will be left with no option but to make concerted efforts to procure gas and oil from nearest available sources. From 2010 to 2030, the demand for energy will bring non-OECD countries at par with OECD countries to supply their abundant natural resources to the surrounding regions and world as reflected in below figure 6.1. Energy security in Pakistan and neighboring countries now stands at the top most national priorities. Energy supply through a secured and economical passage would always be the choice for all. Pakistan with its unique geography combines all regions including Economic Cooperation Organization (ECO), South Asian Association for Regional Cooperation (SAARC) and Shanghai Cooperation Organization (SCO) thereby connecting all Eurasian heartland with Arabian Sea and South, West and Central Asia (Cheema, 2011, p. 14). The Gwadar port thus becomes significant to facilitate various parts of world with energy rich Central Asia and the Persian Gulf. Supply of crude oil of African and Middle Eastern countries to China can easily be transported through the gas pipeline corridor via Gwadar. In the same way, oil from Central Asian states could easily be transported through ships via Gwadar port to Europe via the Red Sea to the Mediterranean with low transportation cost (p. 15). Similarly, natural gas can also be supplied from LPG tankers to the European countries.

As countries like Spain, the UK and France are already importing LPG supply from different parts of the world and received 64 billion cubic meters of natural gas in 2011 from both the delivery sources, pipelines and LPG tankers (Wingas 2011, p. A1).

Figure 6.1: Energy Consumption by Region and Fuel.



Source: (Ruhl, 2012, p. 23).

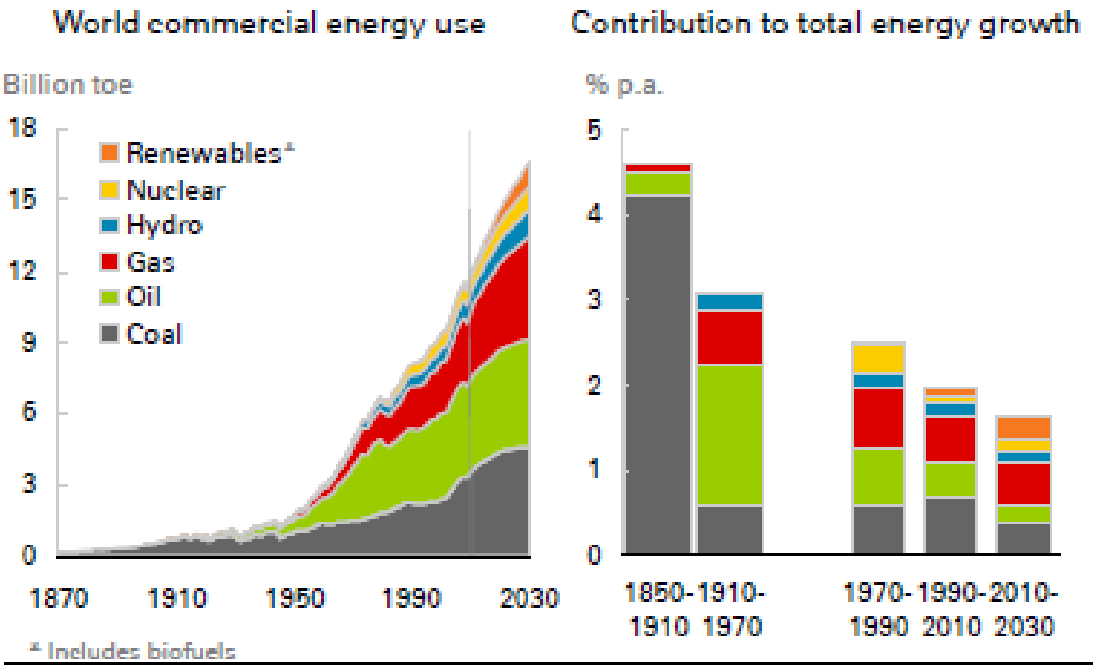
6.2 Role of Energy in Economic Development

Energy, being a key strategic commodity, is recognized as the life line of an economy and the most essential component of socio-economic development (Sahir & Qureshi, 2007). Energy as a source has far-reaching impact on the outcomes of wars, fueled and strangled economic development (Khan & Ahmed, 2008, p. 2). In today's era of globalization, countries dependence on energy has increased manifold. This reflects that

in the near future, the demand for energy will continue to mount and will be one of the biggest problems for the countries to sustain their energy-driven economies.

Global industrial and transportation sectors will be the fastest growing category for energy consumption as manifested below in the figure 6.2 (Ruhl et al., 2012, p.18). From 2010-2020, world energy consumption growth outpaces the contribution of each individual fossil fuel whereas natural gas will be the single most contributor to energy consumption growth (p. 19). According to outlook 2030, global trends for per capita growth in energy consumption from 2010-2030 will increase and would be totally different from the past period 1970-1990 which was characterized by higher population growth with lower industrial development (BP, 2012, A1). In wake of the oil crisis in 1973, world countries started giving more research attention to the energy sector. According to the macro-economic theory, energy supply to industries has an indirect impact on economic growth. A raise in energy prices or short period interruption of energy supply could lead to an increase in the domestic prices which result in reduction of demand due to higher costs. Reduction in demand has severe impacts on supply and production which may lead firms to cancel their investment plans (Dizdarevic &Zikovic, 2010, p. 39). Since 1970s, globalization and trade liberalization are increasingly considered as one of the development trends to boost economic growth (Dodzin & Vamvakindis, 2004, p. 319-328). Trade and economic growth are linked within an economic, social and physical structure where energy consumption is indispensable (Sultan, 2011).

Figure 6.2: World Energy Consumption and Fuel Mix.



Source: (Ruhl et al., 2012, p. 18).

Natural gas is the cleanest fossil fuel and a vital component for the world's energy mix. Natural Gas is considered a major energy source in the global industrial sector and 40 percent is predicted percentage which will continue until 2030 (Benke, 2010, p. 13). Gas is used in almost all sectors of the economy and could easily be exported through transnational pipelines to consumer or LNG vessels and re-gasification terminals (EU Energy, 2013, p. A1). Today, natural gas has become a main pillar of our energy supply. Global forecasts indicate (Wingas, 2011, p. A1) that role of natural gas as a main energy source will become indispensable in the near future as global consumption is expected to grow by 2 percent per year as compare to the growth rate of oil (0.8 percent) and coal (1.2 percent) and trend will continue by 2030. In 2011, natural gas contributed supply to approximately 24 percent for primary energy consumption across the globe. This is

slightly less than oil (33 percent) and coal (30 percent) and significantly more than nuclear power and renewable energies, which together only contribute 13 percent of the global energy supply. According to the statistics revealed by Wingas, following are the advantages of natural gas as indispensable means of energy:

6.2.1 Natural gas helps generate world heat and electricity and according to estimates by 2040 more than 40 percent natural gas will be utilized for electricity generation.

6.2.2 Natural gas produces less carbon dioxide and encourages all those governments that are trying to reduce greenhouse emission.

6.2.3 Being the best climate performance, natural gas is the obvious choice for industries as it releases 25 percent less CO2 than oil when burnt, 30 percent less hard coal.

6.2.4 Because of its decentralized component (as it produces energy close to operational sites where required), Natural gas has the highest performance in heat and power generation.

6.2.5 On the basis of its abundant resources, natural gas is estimated to be available for almost 230 years whereas crude oil resources will last for almost 40 years from today onward.

6.3 Energy Corridor: A Viable Option

Pipelines are considered the favored transport means for natural gas and crude oil exports. For regional usage, pipeline corridors are less expensive compared to Liquefied Natural Gas (LNG) which requires sophisticated infrastructure investment with technical handling capacity. Transportation of natural gas and oil needs special arrangements for fully utilization. Oil, which can be shipped by tankers, usually requires less direct commercial and political interaction between producer and consumer states than gas which is normally transported over ground through dedicated pipelines or over sea in specialized tankers in form of LNG (Kennedy, 1993, p. 24). According to some sources, transportation of natural gas and oil through pipelines for short distances of about 3,000 kilometers is relatively less expensive than LNG shipments. Through gas pipelines, natural gas can easily be passed on to consumers at economical price. Pipelines are easily maintainable with lower cost and have a normal life-span of 35 to 60 years, depending on the atmosphere and maintenance (Oil and Gas Delivery, 2011, p. 70). As per viability and cost-effectiveness, natural gas's export through pipeline remains economical delivery means up to 3,000 km (p. 47). Economic dividends could only be achieved from the investment in pipeline infrastructure, if there is a reasonable certainty regarding supply and purchase, which entails bilateral or multilateral arrangements on part of participating states (Yodogawa, & Peterson. 2013, p. 115). As energy pipelines are operated for high volumes of energy ranging from about 20 BCM per annum or greater (Tongia & Arunachalam, 1999, p. 1054). The below discussion will help understand regional energy demand to consume vast energy resources of Central Asia.

6.4 Regional Energy Requirement

The rapid economic development has resulted in the depletion of energy resources which have created a sense of conscious among energy starved nations. Trends reflect that world's growing energy demand will continue to mount and grow at fast momentum. According to United Nations Conference on Trade and Development (UNCTAD), by 2020, natural gas requirement will increase by 2.77 percent per annum while crude oil seaborne shipments will increase by 3.5 percent in the same period (2004). Now nations are reviewing their strategies to secure their future. China, India and Pakistan are vulnerable to energy dilemma and there is a high time for these countries to capitalize energy potential of Central Asia for sustainable economic growth. China and India are growing economies and by 2030 these two giant economies would be almost double in size with USA (p. 30). Such rapid economic growth has also developed apprehension about energy as their industrial appetite for energy is increasing day by day. According to the statistics revealed by US department of energy, the world energy consumption is estimated to grow by 2.6 percent per annum from current level to 2030 while during the same period China and India's energy consumption would increase by 5 percent and 3.8 percent respectively (Aziz, 2005, p. 62). According to the estimates of Bush Jason, (2005), until 2025 China will require 14.2 million barrels of oil per day to meet its energy consumption of the industry whereas India will need 5 million barrels of oil per day to sustain its economic growth. In the natural gas import, India's utilization is estimated to grow up to almost 6.8 billion cubic feet a day for a period of ten years and will reach six fold after twenty years time which is equivalent to about 400 million cubic meters a day (India in-Depth, 2006). As bilateral relations between Pakistan and India are back to

normalcy and improvement in different economic sectors has been made, India will still prove to be the ultimate buyer of the Central Asian energy (Fredholm, 2008, p. 58).

Pakistan along with India is equally devoid of energy resources for industrial development. These two countries account for half of South Asia's GDP. In Pakistan, after hydropower, natural gas is considered the second most important source of energy and means of modernization (Fredholm, 2008, p. 58). Pakistan's proven domestic natural gas and oil reserves are shrinking to meet emerging energy demand of its industrial and other economic sectors. Pakistan's present 1 trillioncubic feet consumption per annum is increasing at a fast pace and if Central Asian oil and gas reserves are not capitalized in the near future, the country's industrial, commercial, transport, household and other sectors of economy would go standstill (Wirsing, 2008, p. 9).

Abundant natural resources of Central Asia become important factor for South Asia which has the scantiest endowment of hydrocarbons to fulfill their energy requirements. In this context, Gwadar port can play a significant role as an energy corridor to link Central and South Asia into economic integration to achieve a sustainable economic growth. Located just a few hundred miles away, the energy corridor will connect the Central Asian states of Uzbekistan, Turkmenistan and Afghanistan to exploit over 217 trillion cubic feet of gas reserves which are more in quantum than Saudi Arabia's resources (Aziz, 2005, p. 63). Moreover, South Asia can enable Central Asian States to diversify their economies by supplying gas and oil on global market prices as Russia's Gasprom, oil and gas company, is exploiting the Central Asian countries' energy flow on

a very minimal price. The Central Asia has old gas pipeline network which known as the Central Asia-Center (CAC) gas pipeline system runs from Turkmenistan through Uzbekistan and Kazakhstan to Russia. The CAC is a network of five separate pipelines which are being used for transportation of energy from the Central Asia to Russia. These pipelines were started constructing in 1966 and completed in 1987. Keeping in view the rich energy resources of Central Asia, Russia has increased its transit capacity to retain energy from the Central Asia (Fredholm, 2008, p. 42). The Russian monopoly and exploitation is because of the fact that during former Soviet's period, all supply routes of Central Asia were designed in such a way to direct its energy resources only to Russia and left the region with no option but to continue supplying Russian energy market. This approach of exploitation at the hands of Russia has severely thwarted the region's economic development. The energy corridor will also contribute for economic development of Afghanistan as the country is located in the middle of two regions and can serve as a viable transit corridor for uninterrupted energy. It is a high time for both the region to act as fueling prices are steadily going up since 2002 and delay may cause a severe blow to regional prosperity and to both the economies of India and Pakistan whose people are living below the poverty line (p. 63).

6.5 Hydrocarbons Potential of Central Asia

For centuries, Central Asia was in the backwater of world political and economic chessboard from the golden periods of Silk Roads. The hydrocarbons discovery of Central Asia has again brought these five states into the world arena. Now these countries are equally important for Europe, Asia, especially South Asia, China and Russia. The

geographical location of Central Asia also makes this region unique and attractive to regional and world powers as it is the heartland between Europe and South Asia while bordering with China, Russia, Afghanistan, Iran and Pakistan (through a narrow strip of Wakhan). According to another source, Central Asia due to its more than 2,020 trillion cubic feet of gas reserves following Middle East 2,549 trillion cubic feet (Benke, 2010) of gas serves, has gained a strategic importance to meet energy requirement of the world (p. 29). Kazakhstan, Turkmenistan and Uzbekistan are three prominent countries in Central Asia to have abundant hydrocarbon resources as reflected in the table 6.1. While Kyrgyzstan and Tajikistan are not major energy exporters yet are critical for transportation of energy resources in the region as these resources are landlocked (Cain, 2012). Their untapped vast hydrocarbon resources make them prominent to the world. According to the Economist, seventh tenths of all the increase in oil production outside Organization of the Petroleum Exporting Countries (OPEC) is fulfilled from Central Asia's energy resources (Make a new plan, 2011).

Table 6.1: Natural Gas reserves of Central Asia

Natural Gas Proved Reserves	Trillion cubic meters	Trillion cubic feet	Share %
Kazakhstan	1.82	64.4	1.0
Azerbaijan	1.20	42.3	0.6
Turkmenistan	7.94	280.6	4.3
Uzbekistan	1.58	55.8	0.9
Together	12.54	443.1	6.8

Source: (Benke, 2010, p. 16).

6.5.1 Kazakhstan's Potential

Kazakhstan is the most energy rich and comparatively well-developed country in Central Asia, but few natural export routes (Babak, 2006, p. 45). The country's main gas fields in Tengiz, Zhanazhol and Uritau and oil fields in Karachaganak and Kurmangazy have not been connected with gas pipelines for export (Rakhmatulina, (2007, p. 10). In hydrocarbons, Kazakhstan's oil reserves are projected almost 7.8 billion tons and natural gas resources account for about 100 trillion cubic feet (India-Kazakhstan Relations, 2009). The petroleum industry of Kazakhstan accounts for about 30 percent of its GDP and over half of its export revenues (Fredholm, 2008, p. 12). According to the estimates of US Energy Information Administration, Kazakhstan would soon be counted among top five oil producers of the world. With vast gas reserves, Kazakhstan is stood 15th in the world's net exporters of the gas and plans are underway to improve gas production by 12 percent in the coming years. Its geographical location favors construction of oil and gas pipeline via Gwadar port to the rest of the world (Muhammad Rafi, personal communication, July 19, 2013). The plans are underway to construct energy pipeline to export the vast oil and gas resources to the surrounding region and to world market.

6.5.2 Uzbekistan's Potential

Uzbekistan has also vast resources of gas and counted 8th largest country in the world with gas reserves. Uzbekistan is self-sufficient in natural gas production having three refineries at Ferghana, Alty-Aryk and Bukhara (Energy Information Administration [EIA], 2008). According to estimates, Uzbekistan has almost 2.4 trillion cubic meters of

gas reserves. Absence of infrastructure development to export the gas to regional market, such vast gas reserves are being consumed domestically at very subsidized rates. The rest of gas supply is pumped to Russia through old routes laid during former Soviet times on very low prices. In such an unfavorable and poorly developed investment market, Uzbekistan has initiated to develop gas pipeline projects with its neighboring countries to seek regional (South Asia and China) and global markets access of its product. The country has also vast reserves of oil but due to lake of investment such vast oil reserves have not been explored yet (EIA, 2008).

6.5.3 Turkmenistan's Potential

Turkmenistan has significant natural gas and oil reserves which are mostly located on its South Caspian basin and in the Garashyzlyk onshore area on its west (Fredholm, 2008, p. 23). Though Turkmenistan is a net exporter of oil to meet its domestic requirement, yet its vast gas reserves have made the nation an international darling. Turkmenistan's 8 trillion cubic meters of gas reserves made the country 4th in the world having vast gas resources after Russia, Iran and the United States. The country is producing 70 billion cubic meters of gas each year. According to latest surveys, the country's largest gas field in the south Yolotan is estimated to have 38.1 trillion cubic meters (Foshko, 2012, p. 20). Turkmenistan has a comparative advantage over other Central Asian states as its gas production capacity is high. In 2008, 49 billion cubic meters of gas supplied to Russia, China and Iran via gas pipelines out of its total production of 71 billion cubic meters (p. 21). Due to old routes constructed during former Soviet Union's times, 1/3 gas supply of Turkmenistan shipped to Russia. In recent times, a visible shift has been noticed on its

gas export portfolio to favor supply to China. Turkmenistan has been trying to find a viable energy corridor for transportation of its vast natural gas. For this purpose, it has envisaged a number of gas exports corridors including transportation to Russia through its old northwest corridor, to Europe through the far west, to Iran through the South, to China through the east and Pakistan and India through the Southeast (Fredholm, 2008, p. 23).

Central, South Asia, Iran, Afghanistan and the energy rich Caspian Sea presents a unique geo-strategic importance due to its expanded economic prospective and geographically critical placement which has constructed the entire region as a centre piece in global politics. The enormous energy resources of Central present an opportunity for regional as well as extra regional countries for exploration and every country is determined to exploit as much as possible. Among the Central Asian states, Kazakhstan, Uzbekistan and Turkmenistan are self-sufficient in oil and gas production and their production of energy is quite greater than what they actually consumed domestically, see table 6.2 below for detail analysis of oil and gas reserves and production of Central Asia. Central Asia's energy is thus the only source of wealth and economic prosperity.

Table 6.2: Production of Central Asia Oil and Gas.

Oil Production /Consumption (million tons)				Natural Gas Production/Consumption (billion meters)		
Year	Kazakhstan	Turkmenistan	Uzbekistan	Kazakhstan	Turkmenistan	Uzbekistan
1990	25.8/21.5	5.7/4.4	2.8/12.6	6.6/12.5	81.9/9.8	38.1/36.8
1991	26.6/21.7	5.4/5.0	2.8/11.0	7.4/13.2	78.6/9.6	39.1/37.1
1992	25.8/20.3	5.2/5.2	3.3/8.5	7.6/13.5	56.1/9.3	39.9137.3
1993	23.0/15.7	4.4/3.0	4.0/7.6	6.2/13.0	60.9/9.3	42.0/40.7
1994	20.3/12.3	4.2/3.0	5.5/6.8	4.2/10.3	33.3/10.2	44.0/41.3
1995	20.6/12.0	4.1/2.7	7.6/6.8	5.5/10.8	30.1/8.0	45.3/42.4
1996	23.0/10.2	4.4/3.0	7.6/6.6	6.1/9.0	32.8/10.0	45.7/43.3
1997	25.8/10.3	5.4/3.1	7.9/7.1	7.6/7.1	16.1/10.1	47.8/45.4
1998	25.9/8.5	6.4/3.4	8.2/7.1	7.4/7.3	12.4/10.3	51.1/47.0
1999	30.1/7.0	7.1/3.6	8.1/6.9	9.3/7.9	21.3/11.3	51.8/49.3
2000	35.3/7.4	7.2/3.6	7.5/6.7	10.8/9.7	43.8/12.6	52.6/47.1
2001	40.1/8.9	8.0/3.7	7.2/6.5	10.8/10.1	47.9/12.9	53.6/51.1
2002	48.2/9.3	9.0/3.8	7.2/6.3	10.6/11.1	49.9/13.2	53.5/52.4
2003	52.4/8.8	10.0/4.2	7.1/7.2	12.9/13.3	55.1/14.6	53.6/47.2
2004	60.6/9.0	9.6/4.2	6.6/6.5	20.6/15.4	54.4/15.5	55.8/44.8
2005	62.6/10.0	9.5/4.4	5.4/5.5	23.3/19.4	58.8/16.6	55.0/44.0
2006	66.1/11.0	9.2/4.5	5.4/5.6	24.6/20.9	62.2/18.9	55.4/43.2
2007	68.7/10.6	9.8/4.7	4.9/5.8	27.3/19.8	67.4/21.9	58.5/45.6

Source: (BP Statistical Review of World Energy, 2008).

6.5.4 Hydrocarbons Potential of Afghanistan

Afghanistan is also considered a vast storehouse of natural resources. Decades' conflict and wars in Afghanistan hindered exploration in the country and could not allow international geologists to explore oil and gas reserves in the country. During this period, Afghanistan relied completely on import of oil and gas (LNG) of Central Asia and Iran on high prices. In early 2012, Afghanistan's northern area adjacent to border of Tajikistan was discovered to have gas reserves of approximately 5 trillion cubic feet (Aziz, 2005, p. 64). From 2004 to 2006, the US geology survey (USGS), found that the northern region

of Afghanistan contains 18 times more oil reserves and three times more gas reserves than to the early estimates (USGS Assessment, 2006). The USGS also revealed that vast land of Amu Darya Basin contains over 15.6 trillion cubic feet of natural gas (could be even 36.5 trillion cubic feet) and 1.6 billion barrels of oil (could be even 3.6 billion barrels of oil) (Aziz, 2005, p. 65). Since the overthrow of Taliban government, about 20 foreign gas companies are involved in the energy related sectors in Afghanistan (Fredholm, 2008, p. 58). The abundant energy resources of Turkmenistan, Uzbekistan and the Northern areas of Afghanistan could help meet the energy requirement of the South Asian countries, especially Pakistan, India and also China to sustain their economic growth. Moreover, energy/pipeline corridors will have far-reaching impact on the socio-economic aspect of the region to bring stability and foster economic activities in the long run. Table 6.3 gives an overview of energy potential of Central Asia, Afghanistan, Pakistan, India, Iran and China to understand how Central Asia will help South Asian countries including China meet their growing energy demands.

Table 6.3: Energy Resources of Central Asia and Surrounding Regions

Primary Energy Resources In Wider Central Asia (WCA) and Surrounding Regions							
Types of Reserves	Crude Oil	Natural Gas	Coal	Total		Hydro Potential	
Countries/Units	MTOE *	MTOE	MTOE	MTOE	% of Total	TW h/year	% of Total
Afghanistan	--------	--------	------	-------	-------	---------	---------
Kazakhstan	5404	2700	19810	27914	77%	62	12%
Kirgizstan	6	5	580	591	2%	99	19%
Tajikistan	2	5	500	507	1%	317	62%
Turkmenistan	72	2610	trivial	2684	7%	5	1%
Uzbekistan	81	1674	2851	4606	13%	27	5%
Subtotal Central Asia	5567	6994	23741	36302	100%	510	100%
Iran	18068	24750	-------	42818	21%	88	4%
Pakistan	-------	718	1017	1735	1%	310	5%
Russia	9859	43200	68699	121758	60%	1670	70%
Subtotal WCA:	33494	75662	93457	202613	100%	2398	100%
China	2328	2006	58900	63234	18%	1920	37%
India	759	831	60843	62433	18%	660	13%
Turkey	-------	------	1488	1488	0%	--------	4%
UAE	13340	5454	-------	18794	5%	216	--------
Total for WCA plus Main Neighbors	49921	83953	214688	348562	100%	5194	100%

Source: (World Bank, 2004).

6.6 Gwadar port: A Viable Energy Corridor

There are two options available for world community to seek access to the Central Asian gas and oil reserves; Chabahar port of Iran and Gwadar port of Pakistan. The prevalent international environment against Iran does not favor countries and even investors to use Iranian territory for transportation of Central Asian energy to the world market. Therefore, Gwadar port in this context can fully capitalize its geostrategic location to

facilitate Central Asia to supply its energy to the world. Realizing this fact, government of Pakistan has already maintained good diplomatic and trade ties with all Central Asian States. Central Asian States' entry into economic cooperation council is also one of the efforts on Pakistan part to strengthen regional cooperation in all spheres of life. Turkmenistan-Afghanistan-Pakistan-India (TAPI) has not so far been decided whereas former long-awaited Iran-Pakistan-India gas pipeline project has been converted into Iran-Pakistan (IP). The gas pipeline project is a precise overland route of pipeline which would ultimately pass through Balochistan's territory which would definitely be connected with Gwadar port to act as an energy hub for the region to transport oil as well as natural gas (in LNG form) to the rest of the world (Wirsing, 2008, p. 10). In this context, Pakistan's Gwadar Deep Sea Port with its capacity and geostrategic location emerges as a potential energy hub for the entire region. It can easily facilitate oil and natural gas supply from energy rich countries of the Persian Gulf as well as Central Asia to the energy starved China, India and many others in the world (Cheema, 2011, p. 13). Gwadar port in the long run will play a substantial role in uplifting the economy of Pakistan by generating a lot of foreign exchange but the port will also establish some influence on the neighboring countries as a guarantor for their economic stakes involved in the pipelines (Jehanzeb, 2007, p. 88). These energy pipelines would help Pakistan attain some influence over the processing of energy production, storage and distribution of at the terminal point of Gwadar port.

Today, energy-dependent countries with insufficient domestic energy resources prioritized the quest for energy security in their foreign policy agendas. In case of Pakistan, with its almost 175 million populations which is the world's sixth largest

populated country, is not indifferent to this emerging agenda to mitigate its energy requirements from the nearest point. Recent acute energy crisis has pushed the government to assume energy as indispensable for future economic growth (Abid Saeed, personal communication, November 4, 2013). The government is trying to achieve uninterrupted supply of energy for domestic and industrial sectors. For this object, government of Pakistan has taken a number of initiatives to secure and ensure energy supply for future. To capitalize Central Asian oil and gas supply, government is trying to link Central Asian energy pipeline with Gwadar port to transport it to the regional countries as well as to the world. In an interview with Col (R) F. Mabool Afridi, Chairman Standing Committee on Gwadar Promotion and Development (Personal communication, January, 15, 2014), said that under the master plan of Gwadar port, following energy related areas would be established to capitalize and diversify the Central Asian natural gas and oil export:

Firstly; liquefaction plants will be installed to convert natural gas into LNG form and reconstitute LNG into useable gas;

Secondly; specialized oil and LNG tankers would be provided for transportation of these resources to the world;

Thirdly; Receiving and storage terminals would be constructed.

Gwadar port with its modern facilities of warehousing, storage capacity, oil refining and distribution system could serve as an energy hub for the entire world (Wirsing, 2008, p.iv).

Government of Pakistan envisions Gwadar port as a multidimensional hub of economic activities for which construction of road networks, railway lines and new air port are some of the major steps in line with the master plan of Gwadar port to achieve sustainable economic growth in future. Moreover, government has planned to develop a number of industries including steel mill, LNG terminal, oil refining, automobile assembly plant, cement plant and many other to convert Gwadar as an energy hub in the region to channelize energy resources to the entire world (Wirsing, 2008, p. 17). In the below given scenario, Gwadar port emerges as a viable, cost-effective and shortest energy route for Central Asia:

6.6.1 Liquid cargo of Uzbekistan, Kazakhstan and Turkmenistan can be transported to Mediterranean Sea via Gwadar port which provides 1400 km shortest route whereas transportation through Caspian region is 1800 km long distance (Malik, 2013, p. 72).

6.6.2 Existing itinerary to Mediterranean Sea passes through Russia which is a point of concern for Uzbekistan, Kazakhstan, Turkmenistan and Europe as they all are unwilling to depend on old Russian routes (Blank, Stephen, 2009, 2).

6.6.3 Through Gwadar port, Kazakhstan, Turkmenistan and Uzbekistan can reach to the world market for their natural gas (LNG) and oil export.

6.6.4 Iranian port Chabahar presents another viable route to the Indian Ocean which is also not feasible due to US sanctions imposed against Iran.

6.6.5 US government is also interested in the transportation of Central Asia's energy via Gwadar port. Therefore, the US's oil giant Unocal has proposed construction of TAPI energy pipeline for the export of Central Asia's gas through Gwadar port.

6.7 Future Gas Pipeline Plans

Explaining regional cooperation in the energy sector, Mr. Ishtiaq Ahmad, highlights that decades of instability in Afghanistan, Indo-Pak rivalry and US-Iran tension are the main factors that have so far hindered the construction of energy corridor to link Central, West and South Asian regions to achieve sustainable socio-economic development (2010). However, this does not mean that progress has not been made to fully capitalize Pakistan's unique regional position (p. 6). In fact, noticeable progress on different fronts has been achieved to materialize energy corridor in the region and a number of energy agreements and Memorandum of Understanding (MoU) have been signed between Pakistan and regional countries. The significance of these agreements and proposed future energy plans are explained below.

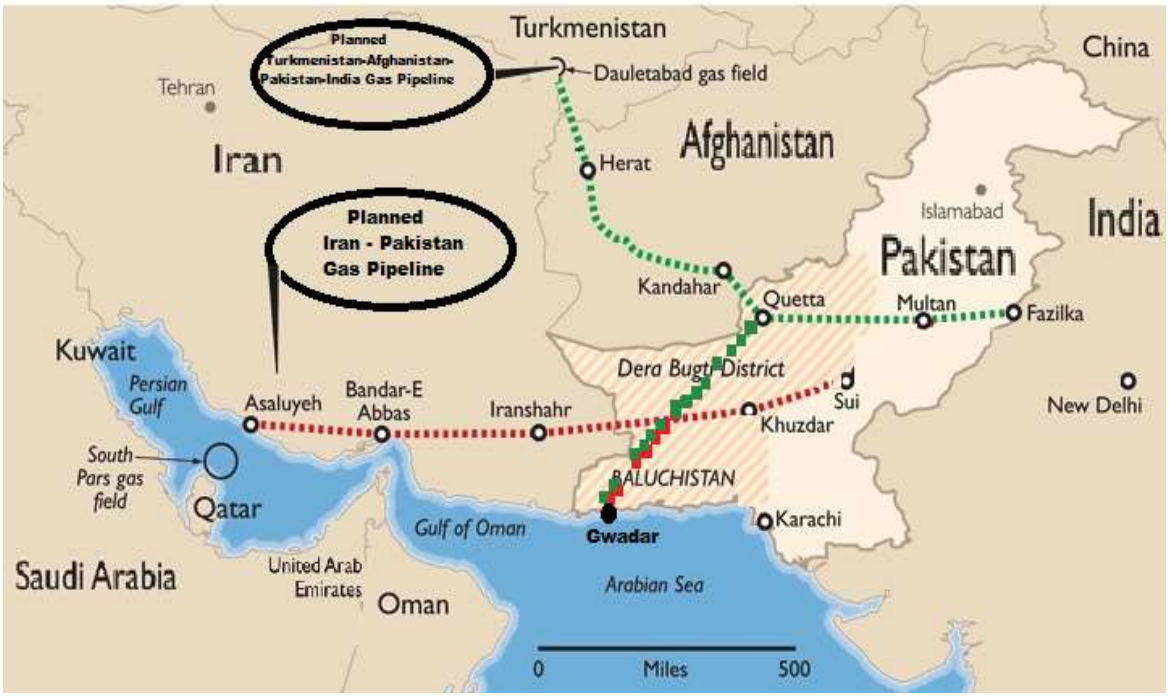
6.7.1 Turkmenistan-Afghanistan-Pakistan-India Pipeline (TAPI)

TAPI pipeline has been in discussion for quite some time. Earlier the same gas pipeline was known as the Central Asian Gas Pipeline, CentGas and also the Trans-Afghan Gas Pipeline (Fredholm, 2008, p. 58). The gas pipeline project was first advertised by Argentina's Bridas Corporation in early 90s. The project was then given to the American firm Unocal which pulled out in 1998 due to security reasons (p. 58).

Since the inception of Central Asian states in the wake of the collapse of former Soviet Union, TAPI project of transporting natural gas from energy-rich Central Asia to energy-starved South Asia has got significance to uplift economies of the regions. Several memoranda of understanding on TAPI gas pipeline have been made over the period. After much deliberation, in December 2010 the presidents of Turkmenistan, Afghanistan and Pakistan along with Energy Minister of India finally arrived on the agreement in Ashgabat to construct the 1,680 km (or almost 1,050 miles) long energy pipeline at the cost of US $ 7.6 billion (Ahmad, 2010, p. 3). The TAPI gas pipeline backed by the Asian Development Bank will provide 33 billion cubic meters of natural gas from its South Yolotan and Usman gas fields and 3.2 billion cubic feet of gas per day (Anwar, 2010, p. 100). The gas reserves of Turkmenistan are expected to have almost 14 trillion cubic meters (Ahmad, 2010, p. 3). Initial work of laying down pipeline has also been discussed with Unocal, a US based consortium of oil companies from Turkmenistan's Daulatabad gas field passing through territory of Afghanistan to Pakistan and then to India (Cheema, 2011, p. 7). There has been two main factors obstructed the construction of TAPI gas pipeline. One is reluctant attitude of India and second lingering warfare and instability in Afghanistan as the energy pipeline has to pass through strife ridden Afghanistan (Cheema, 2011, p. 7). TAPI gas pipeline will transport Turkmenistan gas from the Dauletabad gas field to Pakistan via Afghanistan. TAPI will run parallel with the highway connecting Hearat to Kandahar and Kandahar to Quetta and then the rest of the country will be linked (Anwar, 2010, p. 99). See figure 6.3 for proposed and existing gas and oil pipelines from Central Asia to Gwadar port. After construction of Gwadar port, the gas and oil pipeline could be connected with Gwadar port to export oil and gas (LNG

form) to the entire world. The port work is underway to develop more berths, approach channels and storage terminals to facilitate with full warehousing, Industrial zones and trans-shipment services. The port in the long run emerges as an energy hub with storage and refining facilities to transport vast oil and gas resources of Central Asia to the world market (Mills, 2006, p. A1).

Figure 6.3: Proposed and Existing Gas and Oil Pipeline.



Source: (Kaleem, 2014).

Indeed, TAPI, the main energy corridor, will not only connect four signatory states but also serve as a compatible product of economic interests among the four signatory states to achieve their common objective for sustainable economic growth. The energy corridor will be a well-matched for all participating states as it will provide an opportunity to Turkmenistan to diversify its natural gas exports, will generate significant transit revenue

for Afghanistan to become economically self-sufficient, will overcome energy crisis in Pakistan and will help India sustain its rapid economic growth.

6.7.2 Iran-Pakistan Pipeline (IP)

IP gas pipeline (formerly known as Iran-Pakistan-India gas pipeline which turned into IP after India refused to join in) is another energy project to transport Iranian gas to Pakistan. Iran has a projected 27.8 trillion cubic meters (TCM) or 982 trillion cubic feet (TCF) of proven gas reserves which are the world's second largest reserves after Russia (Haq, 2012, p. 4). The gas pipeline from Iran is estimated to cost US $ 7.5 billion which is almost the same to the cost of TAPI (Ahmad, 2010, p. 7). IP energy corridor project to transport gas and oil through an overland pipeline to the markets in Pakistan have been in discussion since 1995. This 2700 km (almost 1799 miles) long gas pipeline project has the capacity to transport 2.8 BCF natural gas per day from the Iranian field to terminals in Gwadar port (Wirsing, 2008, p. 10).

For the IP gas pipeline, China has also shown interests to join the project which was confirmed by the Foreign Minister of Tehran, Manouchehr Mottaki in February 2010 (Pakistan to India, 2010, p. A1). According to the agreement, Iran would supply 750 million cubic feet gas per day to Pakistan for the period of 25 years from late 2014 onwards (Ahmad, 2010, p. 8). Having experienced vacillating attitude and unnecessary delay caused by New Delhi, Pakistan finally signed the multiBillion dollar gas pipeline project with Iran in March 2013 (Deal on, 2013, p. A1). According to the deal, Iran will lend Pakistan US $ 500 million for the 750 km Pakistani section of the pipeline which

would be completed by the end 2014 (Pakistan, Iran break ground on pipeline, 2013). In Pakistan, 60 % of its population is benefiting from the electricity service and 18 % population enjoys gas utilization for heating. To meet, the energy shortage, as power shortage crosses 3,000 megawatts, Pakistan direly needs the energy gas pipeline to infuse energy into dying industries (Ahmad, 2010, p. 8).

6.8 Potential Gains for the Regions

The main purpose of these energy corridors along with promotion of commercial and political ties would be to improve regional stability and resolve disputes among participating countries. However, below associated potential gains with the energy corridor reflect how the corridor will benefit the surrounding regions.

6.8.1 Benefits for Central Asia to Diversify its Energy Export

With fall of the former Soviet Union in 1991, Central Asian states faced fierce competition from Gazprom, a Russian oil and natural gas company which owned all oil and gas pipeline routes in Russia. All these states are largely dependent on Russia for the supply of their natural gas and oil through old soviet times established routes (Cohen, 2002, p.7). Following are the some options for Central Asia to transport its energy:

First; sell their energy to Russia on minimum prices;

Second; sell their energy to neighboring weak economies which can't pay in cash and delays in payment could even happen;

Third; pay transit fees to Gazprom.

Having assessed the above mentioned options, none of these options are viable and productive for the economic development of these states. Rather the above options would prove to be counterproductive in the long run to support economies of these states. This is evident from the past facts when Turkmenistan was denied by Russia for gas access through its gas pipelines which resulted in sharp decline of Turkmenistan's GDP by 25.9% (Benke, 2010, p. 17). In order to strengthen their economies and shun away from the Russian influence, the Central Asian states need economically viable pipeline itineraries to export their rich energy resources. In this context, Gwadar port with all planned physical infrastructure between South and Central Asia will bring regional integration and will help Pakistan emerge as a pivotal geostrategic state in the region as the country is bordering with China and India, the world most populous countries. The port has been designed on modern patterns to cater Central Asia and Afghanistan access to warm waters to export their nature resources. Gwadar port presents following dividends to Central Asia and Afghanistan:

6.8.1.1 Turkey's efforts to bridge the geographical gap between Central, West and South Asia through a proposed railway link which could not materialize due terrestrial limitations. However, Gwadar port appears to be a viable option to revive old Silk Road.

6.8.1.2 The Central Asian states are largely dependent upon Russia due to old Moscow communication grids which were constructed by former Soviet Union to control the region international mails, telephones, telegraph links and other important communication infrastructure. For the Russians, Central

Asia's cheap energy could be transported to European countries through its energy giant Gazprom (Ghaleb, 2009, p. 65). In order to get rid of Russian influence, CARs have are working on multiple energy routes including TAPI for its energy export to South Asia as well as to world via Gwadar port.

6.8.1.3 The Caspian region is desperately looking for a viable energy route for channelizing pipelines and Gwadar's proximity with Strait of Hormuz makes it the most suitable choice as the oil exploring companies are mostly western which are not in favor of Iranian port due to prevailing international sanctions against Iran.

Thus, Pakistan's role in the region remains pivotal to benefit entire regional states to accrue economic dividends. Benefits of South, Central and West Asia are not confined to the regional states which are historically connected with each other but the regional integration will also potentially benefit all extra-regional powers, especially Europe, East and Far East Asia, who have high stakes in the stability of Asia in the 21st century and beyond (Ahmad, 2010). Pakistan's position as a potential energy corridor for the region is right in the strategic direction of the post-cold war global trend emerged for regional integration and regionalization in reaction to the forces of globalization (p. 3).

6.8.2 Compatibility in Regional Energy Production and Requirement

The combined oil flow of the Central Asian States including Kazakhstan, Turkmenistan and Uzbekistan to Pakistan and India can benefit both the regions at large (Cassam, 2005, p. 7). For Turkmenistan, the pipeline will help generate additional revenue and provide an

alternative energy route to export its gas resources (Ahmad, 2010, p. 5). This alternative route is important for all Central Asian states to reduce their dependence on Russia which is their traditional client (Blank, 2009, p. 2). Ashgabat has already made an agreement with Iran to supply gas. For Turkmenistan's gas supply, China is ambitious to support the pipeline project The TAPI pipeline project could help integrate regional economic system of South and Central Asia by evolving a single security community and paving the way for durable peace in both the regions (Ahmad, 2010, p. 6).

Recent discovery of gas reserves in northern part of Afghanistan can also be linked to the energy corridor to uplift economic growth of Afghanistan in particular and adjoining regions in general. As per US government assessment that gas supply from Afghanistan to Pakistan and India will be economical and cost-effective. All major energy firms are interested to develop the pipelines of Central Asia to link it with the lucrative markets of Pakistan and India. This is just because of the fact that Afghanistan's today local market is only Kabul which is too small to consume abundant gas resources. Tariffs on the pipelines to South Asia as a transit fee will benefit both Pakistan and Afghanistan to get costless delivery of natural gas. The construction of the pipeline would also generate considerable revenues for Afghanistan. The development of work in Helmand, main crossing points for TAPI gas pipeline, would generate employment in the region which will dissuade a considerable community of the Helmand area from poppy cultivation and heroin production (Ahmad, 2010, p. 5) According to the estimates, if the pipeline would have been established in the region, today Afghanistan would alone be benefiting to earn approximately US $1 billion per annum as transit fees from Pakistan and US $0.5 billion

in revenues as transit fees from Central Asia for its oil transport to South Asia (Kaufmann et al., 2004, p. 58). In addition, Afghanistan's generator during winter season can easily be converted from diesel and petrol heating into gas to save high cost if gas is made available in the country.

According to the Petroleum Institute of Pakistan (PIP), persistent energy shortage in Pakistan will continue and the country's energy deficit will likely to reach 110.8 million Tons of Oil Equivalent (TOE) in the next 15 years period of time (Steps Urged, 2014, p. A1). The PIP also estimated that during Pakistan Energy Outlook (PEO) 2013-2028, the country's demand for energy will increase up to 147.78 million TOEs against the domestic resources of 36.90 million TOEs (Energy deficit likely to expand, 2014, p. A1). Currently, Pakistan's natural gas reserves are 0.89 TCM approximately which are rapidly declining in the face of increase domestic demand for natural gas (Ahmad, 2010). According to recent estimates, Pakistan will have to meet 70 % of its gas demand from import by 2030 (p. 5). From the energy pipelines, Pakistan would equally be beneficial to meet its energy requirement which is creating social chaos and political instability in the country (Aziz, 2005, p. 66). Transit revenues and industrialized projects accompanying pipeline projects would further support Pakistan to develop its economy without any foreign assistance. The energy corridor through pipelines will bring significant indirect economic dividends. It would generate employment, support infrastructural development, improve living standards of people and improve industrial sector. Moreover, the pipelines would enable privately run small community power stations to act as small energy

producers which would further generate employment opportunities to local population (Aziz, 2005, 67).

The pipeline is equally beneficial for China. Energy-starved economy of China needs oil and gas to sustain its economic growth (Ahmad, 2010, p. 2). According to estimates, China's energy demand by 2025 will increase from 100 billion cubic meters of natural gas to almost 210 billion cubic meters per annum by increasing Chinese 35 % import of total natural gas (p.8). So far as the future energy prospects of China, TAPI and IP both are viable options for China to achieve and sustain economic growth vis-à-vis great powers of the world.

Likewise China, India will equally be beneficial as its economic growth requires uninterrupted energy supply to keep sustainable economic growth. India's energy imports stand around 25 % which will increase up to 50 % by 2020 unless new domestic energy discoveries are made. India's quest for Central Asian energy could only be supplied through Pakistan. Unlike China, India does not have any borders with Central Asian states and TAPI and IP will reach to India via Pakistan's territory which would support Pakistan with transit fees for transporting Central Asian gas to India (Ahmad, 2010, p 5). See below figure 6.4 which reflects proposed gas pipelines from Iran and Central Asia to Indian Territory via Pakistan. These pipelines would also help both the countries resolve decades old disputes for future economic prospects and durable peace.

Figure 6.4: Proposed IP Gas and Oil Pipeline.



Source: (http://geopoliticadopetroleo.wordpress.com/geopolitica-dos-oleodutos/).

6.8.3 Facility of Fiber Optic Cables through Energy Pipelines

The pipelines can be used to pass through high-speed fiber optic cables installed inside (Aziz, 2005). These fiber optic cables are being used to detect or localize leakages along pipelines. Earlier, detection of leakage along pipelines was a difficult task which was either done through visual inspection or through drop of pressure. As experienced, leakages of oil and gas pipelines are hazardous for mankind (cause explosion) and environment (contaminate soil and groundwater) (Sajjad Ahmad, personal communication, March 22, 2013). The secondary functions of these cables in gas and oil pipelines are related with telecom which is called a high capacity telecommunication SCADA 46 backbone system (p. 67). Such cabling will bring sophisticated technology in the region's telecommunication sector and prove to be regional telecom hubs. Through

these cables, significant revenues could be generated for government and private business firms. The fiber optic cables are normally used to control the natural gas pipeline system, however, it is equally important to be utilized for other communications purposes such as, cable TV, internet service, IT service and telecom sector for high-speed data transmission (Wingas 2011, p. A1). In Germany with the construction Ostsee-Pipeline-Anbindungs-Leitung-Baltic Sea Pipeline Link, (OPAL), it has been planned to install fiber cables to provide three quarters of all German households with high-speed internet service by 2014 (High-speed Internet, 2013, p. A1). Whereas the 470 km long natural gas pipeline project in Germany, new fiber optic cables have already been laid through Mecklenburg-Western Pomerania for telecommunication and DSL purposes.

6.8.4 Trade in Electricity

Presently, trans-regional energy infrastructure both in electricity transmission lines and energy pipelines is not available. Need for energy network among regional states would help explore the true potential and complementarily in energy sectors of the two adjacent regions. The development of infrastructure would greatly help develop electricity transmission line along the corridor to facilitate Afghanistan, Pakistan and India to import electricity from Kyrgyzstan and Tajikistan. These two states of Central Asia are rich in hydroelectric power while South Asian countries, especially Pakistan and India are facing acute energy shortages and their demand for electricity consumption is increasing day by day. Afghanistan on the other hand is also facing electricity shortage dilemma and its 90 % population does not have access to electricity. Afghan 10 % energy requirement is being fulfilled by Kyrgyzstan and Tajikistan with current 110 kw transmission line

between Termez and Maza-e-Sharif (Norling, 2005, p. 27). Afghanistan lacks a national electricity grid and availability of electricity is also sporadic and unreliable due to poor quality of infrastructure. Today, Afghanistan has 270 Mega Watts (MW) which was 475 mw pre-Soviet invasions (Breckon, 2006, p. 9). The existing poor distribution networks in Afghanistan cause technical as well as non-technical losses are in the range of about 18 % to 22 % of total revenues from supplier countries of Tajikistan, Uzbekistan, Kyrgyzstan and Kazakhstan (WB, 2005, pp. 38-39). In short, over 45 % regional electricity production is either lost or consumed unbilled due to weak and poor mechanism (Aziz, 2005, p. 69).

Pakistan is equally not indifferent to electricity shortage dilemma. According to reports, power outage has also plunged Pakistan into darkness and 90 % Pakistani have severely been affected by the power shortage. The power outage has raised discontentment and political division in the country. Establishment of electricity line along with the established energy and trade corridor is a viable option to transport Kazakhstan and Kyrgyzstan's electricity to Pakistan. In this way, the proposed pipelines or trade routes will be capitalized to include electricity transportation between two regions. Trade of electricity would greatly benefit to both supplier and consumer as former will earn a lot of revenue while the later would be able to fulfill its domestic requirement (Aziz, 2005, p. 69). For example if Pakistan exports the same electricity to India, it will get US $160 million net annual earnings. The sale of electricity will also earn Pakistan's treasury by up to US $460 million per year (USAID, 2006). Trading in electricity between suppliers (Kyrgyzstan & Kazakhstan) and consumers (Pakistan & India) in the region could also prove to be a catalyst for economic development.

Box 6.1: Case Study: Sohar Port as a Catalyst for Energy Industry Clusters

Sohar Industrial port of Oman is an exemplary example of a successful port which have generated splendid economic activities around the city's coastal area since 2003. Sohar port is a joint venture on equal shares between Government of Oman and the port of Rotterdam, managed by Sohar industrial port company on a land port management system. A consortium led by Hutchison Port Holding *(*HPH*)* is operating the container terminal, which is of 520m in length and equipped with post panama cranes, two berths and a depth of 16m alongside. Moreover, for efficient port operations, 970m quay with a depth of 18m has been added. The port's LNG industries are having comparative advantages for being closer to the port and linked with LNG fields in Oman, as well. This direct pipeline connection and industrial use has promoted industries cluster in the region and more and more industries are setting up to provide LNG on large scale. The Government of Oman has also established oil refinery under Oman Oil Company's control which have attracted petrochemical and chemical downstream industries. Presently, a cluster of industries are operating in the vicinity of Oman port including steel, fertilizer, polypropylene and methanol plants. Moreover, small industries which use the petrochemical chemical outputs as inputs in their industrial activity have been attracted. Thus port investment in Oman has encouraged private sector investment over US $ 10 billion and this has brought about a promising future for the country. Currently alumina smelter, electric arc furnace, an ethylene dichloride plant, a polyethylene plant, fish and food processing plants are some of the ongoing projects which would create more employment and economic benefits for the people of Oman.

Source: (World Bank, 2008, p.67).

6.9 Conclusion

Additional global energy requirements can only be met through creating additional energy resources through viable alternative energy routes. To meet the energy needs of South Asia, Central Asian energy could mitigate the emerging consumption of industrial and other sector of economy. Through Gwadar port, the Central Asian energy could easily be transported to the whole world which would help generate enormous revenues for weak economy of the country (Jehanzeb, 2007, p. 90). In an interview with Presidents of Federation of Pakistan Chambers of Commerce and Industry (FPCCI) and Rawalpindi Chamber of Commerce and Industry (Personal communication, November, 19 and 24 2013), following major economic, political and strategic objectives can be achieved from the energy corridor:

6.9.1 The energy corridor will provide abundant natural gas to the region;

6.9.2 Through transportation, countries like Afghanistan and Pakistan can earn revenue as transit gas pipeline transportation fees;

6.9.3 The energy provision will promote industrial development in the region as cheap and economical energy prices will encourage private investors to establish new industries;

6.9.4 The energy corridor will revive old historic, ethnic, culture and religious ties between South Asia and Central Asia which will further promote harmony and regional stability;

6.9.5 The energy corridor will end politics of blame game or unnecessary tension over security issues, especially between India and Pakistan and Pakistan and Afghanistan;

6.9.6 Capitalizing energy pipeline route, export of Central Asia's electricity will not only establish strong relationship based on mutual trust and cooperation in the region but it will also help broaden the spectrum of economic cooperation among countries and

6.9.7 Lastly, energy corridor will provide Pakistan an opportunity to facilitate Central Asia to transport their vast gas and oil reserves to the world via Gwadar port which will earn a lot of revenues to the economy.

The success of Gwadar port largely depends on its utilization as an energy hub by Central Asia and Afghanistan. Gwadar will not only contribute in the economic uplift of the region but it will also revive old cultural, linguistic, ethnic, religious and commerce ties between the people of both the regions. Harmonizing of these ties would help produce regional stability.

CHAPTER - 7

GEO-ECONOMIC PROSPECTS OF GWADAR-KARAKORAM-KASHGAR CORRIDOR

"To get rich, one must build roads".

An ancient Chinese proverb (Sering, 2013, p. A1).

7.1. Introduction

With the end of bi-polarity with the demise of former Soviet Union, the process of globalization got impetus and geo-economic considerations were given preference over geo-strategic priorities. New bilateral, regional and global economic integration models started coming up and regionalism within the domain of economic globalization assumed immense significance for regional economic development (Rahman, 2011). This regional framework of cooperation has made the entire world interdependent at bilateral, regional and continental level to achieve sustainable economic growth (p. 1). Pakistan and China were not indifferent to this geo-economic trend and both the countries fully realized to institutionalize their bilateral trade.

Since 1960s, Sino-Pakistan political and military relations have substantively strengthened. However, cooperation on the economic and trade front remained slow until 1991. China has recently signed numerous agreements with Pakistan to reinforce diversified cooperation for the enhancement of bilateral trade that saw expansion in the bilateral trade over US $ 12 billion in 2012 (Cockayne, 2014). The initiatives include construction of a new airport; expansion and extension of the Karakoram Highway in Balochistan, establishment of oil refinery at Gwadar port, overland energy pipelines, constructions of roads and railway lines are the mega projects which demonstrate Beijing's long term commitment to the existing Pakistan-China Economic Corridor. These economic initiatives come in conjunction with Beijing's substantial investment in Gwadar

Deep Sea Port and will benefit an already well established relationship between the two countries in sustaining their economic growth (p. A1).

Moreover, adversarial relations with India brought China and Pakistan together to collaborate and support each other in the international arena. The joint venture in construction of large-scale development projects in Pakistan has further strengthened bilateral cooperation. China has helped Pakistan develop the Haier-Rub Economic Zone near Lahore. It is considered the first overseas Chinese special economic zone with an aim to develop Pakistan's capacity in different fields to emerge as a regional industrial hub (website of Haier Pakistan). However, the recent mega projects including the expansion of the Karakoram Highway (KKH) connecting China's western province with Pakistan's capital; Chasma II nuclear power plant and Gwadar Deep Sea Port are few among a long list of mega projects that have proved the rhetoric "all-weather" friendship.

Presently, the bulk of Chinese investment in Pakistan worth Billions of dollars will bring substantial trade expansion and economic development in the region. Since 2012, China and Pakistan have been working on the bilateral Five Year Development Programme for Trade and Economic Cooperation (Pak-China projects, 2012, p. A1) to implement 36 mega projects. Both the countries are determined to focus on the strategic sectors and cooperating in the fields of defence, nuclear energy, space programmes, transportation, telecommunication, electronic products and energy (Kabraji, 2012, p. 9). Moreover, China is also assisting Pakistan in the field of agriculture and livestock, civil aviation, mining, promotion of culture, banking and finance. With the Chinese assistance, the KKH constructed in 1986, has been a main trading route between Pakistan and China. Under the

five year development plan, the KKH will be upgraded to facilitate commercial exchange in order to integrate Pakistan's economy with the western Chinese province. China's huge investment worth US $1.6 billion in the construction of Gwadar port in Balochistan and related projects signifies its sincere efforts to strengthen bilateral strategic, economic and commercial ties (Kardon, 2011, p. 17). The geo-strategic location and natural deep sea elements of the port drew the attention of the Chinese to construct it which is just 250 miles away from the Strait of Hormuz through which 40 % of the world's oil supplies is transported (Haider, 2005, pp. 96-98). Pak-China economic corridor will provide following benefits (Kabraji, 2012, p. 9):

First: China's economic investment in Pakistan will stabilize Pakistan to avoid any fallout spilling into its Western province;

Second: Gwadar-Karakoram-Kashgar corridor would enable China to seek shortest access to the main maritime routes for its trade;

Third: The corridor from Gwadar port to Xinjiang province would secure Chinese energy supplies through the Strait of Hormuz and the Persian Gulf; and

Fourth: The corridor would allow China to diversify its energy routes by bypassing US and Indian influence in the Indian Ocean and the South China Sea.

7.2 The Ties That Bind Pakistan and China

Pakistan's foreign policy is determined by its hostility with India and security-dominated relations with US. Historically, both Pakistan and China have tense relations with India over border disputes and closer cooperation between these two is actually driven by their

common animosity with India. China, unlike the US, has maintained a positive image in the Muslim world to refrain from any attack on its soil and desisted from the clash of interests (Kabraji, 2012, p. 8). Now relationship between these two countries is grounded in almost all sector of economy (p. 3). The rhetoric about Sino-Pak relationship is based on Pakistan's loyalty to China. In turn, China always rewarded Pakistan with huge financial investment for infrastructure improvement to establish strong strategic and trade links. Unlike US, China has provided unconditional substantial military and strategic assistance to Pakistan and the aid brought about a strategic shift in the Sino-Pak relationship. Since then, Pakistan started defending China's interest in Xinjiang, Tibet, Taiwan and the South China Sea for which the Chinese leadership applauded Pakistan's role (p. 7). As a goodwill gesture, China always provided Pakistan with all sort of political and diplomatic support in the international arena to defend its national interests. Subsequent international and regional developments further strengthened the Sino-Pak relationship. Today, China recognizes Pakistan as one of key factors in its foreign policy to secure its national interests and maintain stability in Xinjiang province. Strategic partnership between China and Pakistan has actually helped China keep the United States influence at bay in the region and also facilitated it to maintain a check on the Indian ambitions to safeguard Chinese regional economic and security interests (Kabraji, 2012, p. 21).

7.3 Pak-China Multidimensional Cooperation

China has proved to be a sincere and genuine partner to Pakistan than the United States. The bond between Pakistan and China is multi-dimensional covering strategic, economic

and military-to-military ties. Following five main drivers of China multi-dimensional cooperation with Pakistan was outlined by the Chinese President Hu Jintao in his visit to Pakistan (Kabraji, 2012): a. Growing deeper strategic collaboration and consolidating long-established friendship; b. Increasing mutual beneficial business ties; c. Enhancing cultural and social exchange programme and strengthening the basis of friendship; d. Expanding cooperation in intercontinental affairs and upholding common interests and; e. Encouraging exchanges among different civilizations to establish world harmony (p. 7).

To implement this strategy, Sino-Pakistan is currently working on 36 associated corridor infrastructure projects. The railway link is being established between Havellian to Kashgar in Xinjiang which would roughly run in parallel with the Karakoram Highway for which a contract worth US $ 1.2 million has been awarded to an international consortium to carry out a feasibility study for railway and 3,300 km oil and gas pipelines linking Gwadar to Kashgar (Backley, 2012, p. 16).

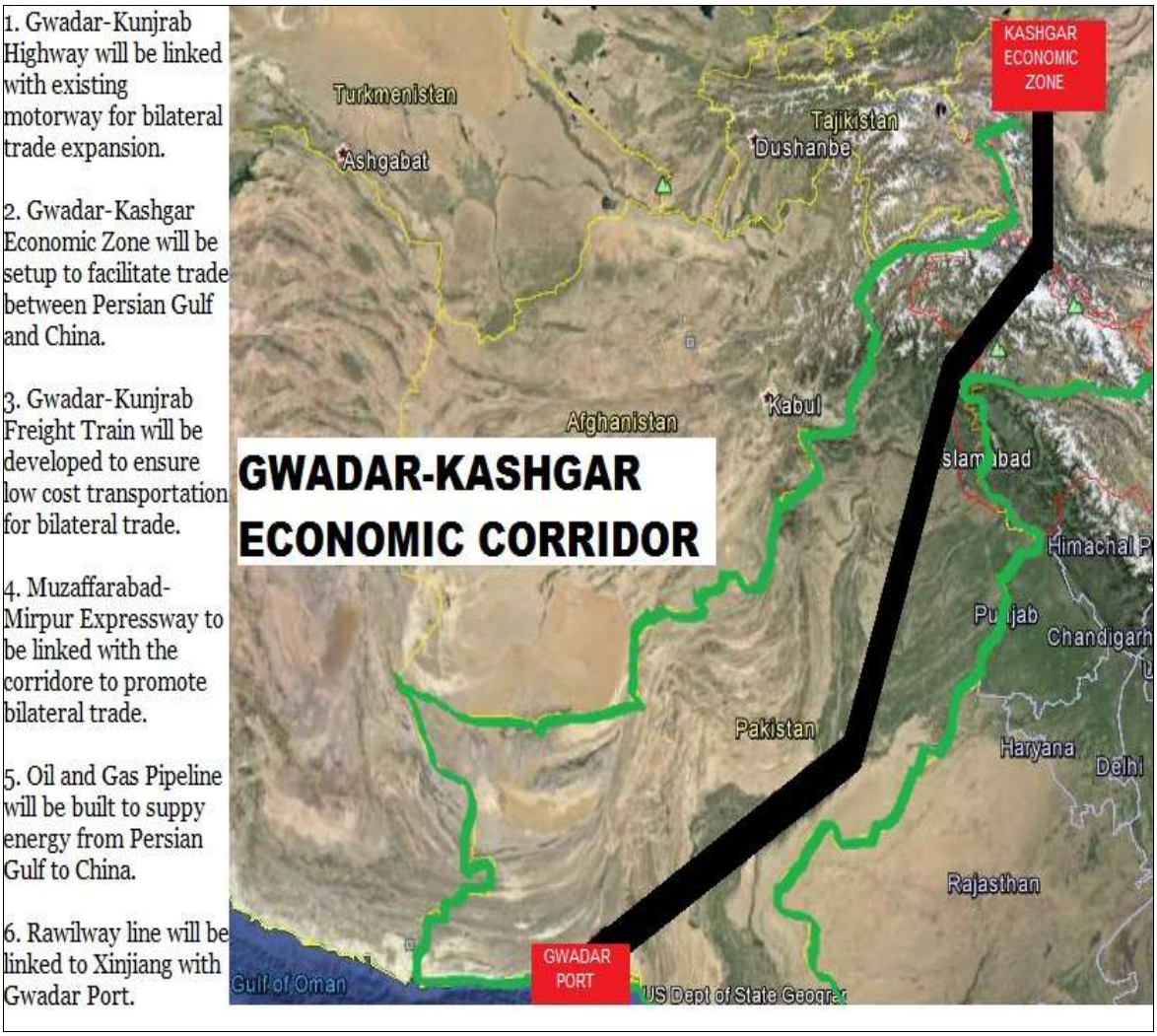
In Pakistan, there is a notable increase in Foreign Direct Investment (FDI) from China and Hong Kong (Mahmood, 2011). Around 120 Chinese companies along with 13,000 workforces are engaged in over 250 projects in Pakistan in the sectors of power generation, engineering, automobiles, mining, infrastructure, IT and telecom (p. 13). Under the renewal of Five Year Development Programme for Trade and Economic Cooperation, China has provided unilateral tariff concession on additional 286 trade items under Free Trade Agreement (FTA) existing between the two countries. This would help Pakistan achieve trade target of US $15 billion by the end of 2015 (Mahmood, 2011,p. 13). Apart from this, both the countries have also signed different commercial agreements

worth US $35 billion (Mahmood, 2011,p. 13). According to official reports, China will spend millions of dollars to complete a 900 km long road connecting the Gwadar port with Pakistan's north and south regions through Indus Highway while facilitating overland transport from Gwadar port to Xinjiang province (China poised to control, 2013, p. A1). Former Chinese Foreign Minister Li Zhozxing once told that China's all-weather friendship title has only been given to Pakistan in the entire Chinese history.

7.4 Gwadar-Karakoram-Kashgar Economic Corridor

Expansion of the Karakoram Highway is China's ambitious plan to improve the cross-regional transportation and commercial network to convert KKH into a 90-feet wide expressway for a threefold increase in the current capacity (Sering, 2012, p. 22). In the first phase of the strategy, the government is mainly focus on the infrastructure development of roads, railway tracks and establishment of industrial zones like Kashgar economic zone and Gwadar economic zone which will create economic opportunities for the local population (Saeed, 2011, pp. 89-90). Moreover, the western China region would be connected with the KKH linking it with feeder roads. Map 7.1 reflects proposed linkage between Kashgar economic zone and Gwadar port. The construction of Gwadar port would expand the KKH to serve as a viable trade and energy corridor for China which will generate transit revenue for Pakistan. The corridor would also help safeguard political and strategic interests of Pakistan (Sering, 2012). The corridor runs through disputed and sensitive territories allowing the militaries of China, Pakistan, Afghanistan, India and even Russia to converge within a striking distance (p. 11).

Map 7.1: Gwadar-Karakoram-Kashgar Economic Corridor.



Source: (Kaleem, 2014).

7.5 Geo-Economic Imperatives of the Corridor for Pakistan

Pakistan's main objective from the Gwadar-Karakoram-Kashgar corridor is to develop a viable conduit for expansion of bilateral and regional trade which would also generate transit revenue for the country. This corridor would not only support the country's economic growth but enhance its political and strategic leverage over other regional countries (Sering, 2010). The transit system will be expanded to accommodate commodity exchange between regional and cross-regional countries which will generate significant

revenue of transit fee for Pakistan (p. 25). It will also help Pakistan and China achieve energy security and would help Central Asia and Xinjiang region overcome food shortage (p. 25). Tourism developments in the region would largely be promoted while people to people contact would also be established in the region. The corridor will not only facilitate trade and transit of fossil fuels, minerals and a variety of other commodities among the producers and consumers in the region, but it will also provide an alternate trade route linking Central Asia via western part of China which will reduce dependence on Afghanistan. For China's perspective, Pakistan is a viable transit option to the Gulf region over Afghanistan and Central Asia to save substantial transit fees and to avoid multiple countries. To cater future volume of trade, China's dry-port at Sost is also being expanded to increase trade handling capacity from 40 containers to 400 containers per day which will cater trade flow from Pakistan (Pakistan considers relaxing visa, 2006, p. A1). Following specific prospecting areas are analyzed to substantiate the potential of the corridor.

7.5.1 Expansion of Regional Trade and Economic Activities

Both China and Pakistan are preparing a joint feasibility of common parameters for the development of Sino-Pak Economic Corridor project. Under the project, economic and trade link will be established from Khunjerab Pass to Gwadar port which will further be connected with Lahore-Karachi Motorway. In the long run, Gwadar port will serve as a regional supply hub for the huge Kashgar consumer markets. The connection between the port and Kashgar city via Indus Highway with Ratodero and Karakoram Highway will further be linked with the Central Asian states namely Tajikistan, Kyrgyzstan, Tajikistan

and Kazakhstan. All these states, under the quadrilateral trade agreement, will further promote economic activities which will result in the expansion of regional trade (p. 89). The agreement was first time implemented by a group of Pakistani exporters who traded with Kazakhstan via Karakoram Highway through Kashgar in 2004 (p. 101). The travelling time as well as cost has considerably reduced after the construction of the Gwadar-Turbat-Ratodero Highway connecting Khunjrab. Moreover, Gwadar port will help China expand its trade relations with Middle East, Central Asia, West Asia and Africa and even can help it improve relations with India as the port will serve as regional trade and energy hub (Yousaf, 2013, p. 8).

The ongoing projects such as the Karakoram Highway expansion, rail track and energy pipeline will cement the existing geo-strategic and geo-economic cooperation between China and Pakistan. The corridor will not only bring expansion in the bilateral trade and economic activities of China and Pakistan but will also enable them to bring regional countries of South, Central and West Asia into a political block to achieve sustainable economic growth and regional stability through regional cooperation. The corridor will have pivotal impact on the regional strategic environment and also for economic integration in the region.

7.5.2 Expansion of Bilateral Trade

Currently, Pakistan and China have signed a number of agreements and Memoranda of Understanding (MoU) to cooperate on industrial and technological development under the principle of reciprocity and mutual benefits for broader economic growth. The pacts

include lease of Saindak copper-gold project, supply of locomotives and supply of passenger coaches to railways, white oil pipeline and MoU on Zhongxing Telecommunication Equipment Corporation (ZTE Corporation) and Pakistan Telecommunication Limited (PTCL) (Rahman, 2011). Moreover, China has also pledged to finance US $1 billion to implement these projects and re-assured to continue assisting on Gwadar port, Coastal Highway and KKH expansion projects. Pakistan in turn, has granted preferential trade agreement along with free market economy status to China (p. 3). Sino-Pak bilateral trade has reached US $7 billion from US $2 billion in 2002. China has granted four kinds of trade concessions to Pakistan (Sabir, 2010). One; one-sided economic concession which would help expands Pakistan's exports to China by US $1 to $1.5 billion per annum. Second; China, in addition to FTA, would grant duty concessions on tariff lines to Pakistani products. Third; both the states have signed an agreement to setup a joint venture firm to promote sale of certified hybrid seeds which would be developed in accordance with the soil and environment conditions of Pakistan. Fourth; Pakistan and China would cooperate in the fields of water resources management, water conservation, sprinkling and drip irrigation systems.

In 2011, Sino-Pak bilateral trade achieved 23 % growth by surpassing the mark of US $10.6 billion as compared to the last year US $ 8.7 billion trade business (Exports register 23 pc, 2012). In the same year, Pakistani exports to Chinese market expanded by 23 % while the country's imports from China also grew at 22 % (p. A1). Pakistan's exports to China in 2008 were almost US $1.0 billion whereas exports in 2011 has surpassed to US $ 2.12 billion which reflects 100 % increase over the period. According to Ismat Sabir

(2010) in 2009 the overall global trade of China reduced by 13.9 % while its trade volume with Pakistan only declined to 2.9 % reaching US $6.8 billion. The total export of China reduced by 16 % whereas its exports to Pakistan declined only by 7.7 % reaching US $5.5 billion (p. A1). During the same year, Chinese import from Pakistan substantially increased by 25.5 % reaching to US $1.3 billion as a result of the Free Trade Agreement. According to Pakistan Ambassador to China, Mr. Masood Khan in his interview to daily the nation said that China had vast market to absorb Pakistan's commodities and services and bilateral trade expansion has been welcomed by both the countries. Both the countries intend to expand bilateral trade up to US $15 billion in the next two to three years.

It is widely believed in Pakistan and China that after completion of Gwadar port projects (including road, railway, energy pipelines etc), bilateral trade and commerce between the two countries would further expand and diversify to adjoining regional countries. Moreover, strong strategic partnership between Pakistan and China, expansion in trade, deeper economic ties and an elaborate architecture for economic cooperation will provide the most constructive environment for bilateral trade expansion. Chinese Premier Wen Jiabao visited Pakistan in April 2005 and raised three suggestions during his address to the China-Pakistan Business Cooperation Conference on further expanding the scope of bilateral trade, investment and strategic relations (2005, p. A1). First; both countries must adhere to the main beliefs of equality and mutual benefits and share complementary advantages. Both Pakistan and China are the developing countries and the scope of bilateral cooperation should be to seek common development as both the economies enjoy strong complementarities. Pakistan has advantage of its abundant resources and raw

material while China has sophisticated technology and modern development experiences and expertise. Indeed, there are immense potentials to expand bilateral cooperation. China would help optimize bilateral trade structure and the trade imbalance with Pakistan will be improved (Rahman, 2011, p. 4). China would also help encourage the competitive enterprise to invest in Pakistan in order to create employment, investment and other economic development opportunities in local areas. Second; both countries must reinforce communications and enlarge scope of business collaboration. The ongoing bilateral business exchange programme has been productive. As the delegation of China Enterprise Confederation (CEC) and the delegation of the private entrepreneurs made visit to Pakistan and in turn, entrepreneurs in Pakistan also started visiting China to strengthen strategic cooperation between the two countries. The exchange and cooperation programme between the two countries' enterprises has proved to be a catalyst for strengthening bilateral economic and trade cooperation. Moreover, the business and trade exchange programme has helped enterprises to exchange their expertise for common development in such a way that better fulfills the principles of market economy. Both the government should provide a platform to promote bilateral collaboration in all sectors of economy. Third; both countries must diversify scope of bilateral cooperation. The established cooperation basis should be coagulated. The cooperation in the fields of agriculture, finance, science and technology should also be enhanced and cooperation in new fields should also be studied. Dynamic and diversified cooperation such as joint venture, lease, sole foreign ownership and training would infuse new energy to bilateral economic and trade cooperation. The speech was ended by Chinese Premier with words that the economic and trade cooperation between China and Pakistan has bright prospects.

Pakistan's trade with China is presently 20 % higher than its trade with United States. Shortly after the Afghan War, US followed disengagement policy towards Pakistan which resulted in the close collaboration between Pakistan and China. Since then, Sino-Pakistan trade began to shoot upward and increased from US $2 billion to $8.7 billion in 2009 (Siddiqui, 2011, p. A1). After signing FTA, trade between these two countries is expanding at a very fast rate (Shabir & Kazmi, 2007, pp. 173-200). The Gwadar-Karakoram corridor will help promote regional trade and economic integration.

In the recent past, a shift in the mindset of Pakistani exporters have been observed and now they are more inclined towards China which is the second largest market for Pakistani products after the United States. The latest figures revealed by State Bank of Pakistan (SBP) that the country's trade with China is rapidly growing and the Pakistan's exports to China have reached to 56 % of Pakistan's imports (Iqbal, 2013). According to SBP report, United States is the largest exporter for Pakistan's product reaching US $3.878 billion in 2013 (Iqbal, 2013, p. A1). Whereas China with its growing trade worth US $7.458 billion has appeared as second largest trade partner for Pakistan after the UAE. In the Fiscal Year 2013, UAE traded with Pakistan worth US $6.376 billion while its imports tune to US $1.935 billion and total trade volume reached to US$8.311 billion (p. A1).

Pakistani traditional exports to China comprise of synthetic yarn and fabrics, cotton yarn and fabrics, fish and fish products, chromium and other ores, vegetable and animal products, granite and stone items, marble, sports goods and carpets. Over the year other products like garments, home textiles, copper, plastic scrap, leather, seafood, medical,

surgical instruments, chemical, mineral and food have also been included in the bilateral trade. Pakistan imports from China includes polyester staple fabrics, polyester and silk fabrics, mobile communication equipment, fertilizers, tyres, combustion piston engines, gas turbines, motorcycle parts, steel and iron products, electrical appliances and various other products (Exports register 23 pc, 2012, p. A1). China has also made steady progress to cooperate with Pakistan in the sectors of energy, telecom, Neelum-Jhelum and Pakistan's telecommunication satellite projects (Sabir, 2010).

7.5.3. Expansion of Cooperation

Since 2000, bilateral economic relations between Pakistan and China have been constant. A number of initiatives and bold decisions have been taken by both the governments to further expand their bilateral economic and strategic cooperation. Chinese economic investment in Pakistan such as the construction of Gwadar deep sea port, coastal highway, expansion of KKH and ongoing energy oil and gas pipeline etc are worth mentioning initiatives for broader economic cooperation. Both the nations are also working on short as well as long term strategies to enhance bilateral cooperation in almost all fields including agriculture, infrastructure development, information technology, tourism cooperation, construction of oil pipeline etc (Rahman, 2011, pp.2-3). Bilateral cooperation in the following areas are explained in detail.

7.5.3.1. People to People Link

Expansion of roads and highways between Pakistan and China will encourage movements on both sides. China under the programme of China Foundation for Peace Development has increased number of scholarships for Pakistani underprivileged students. These

students would be provided technical and vocational training to become self sufficient in their own fields. Pakistan on the other hand is trying to improve its vocational and technical training institutes with financial and technical support of China. This would help young people contribute in the economic development of Pakistan which is considered as low-skills economy (Kazmi, 2007). People to people contacts through educational, cultural or business exchange programmes between Pakistan and China are qualitatively more attractive for middle-class and underprivileged students who could not receive educational opportunities in US, UK, Australia and other western universities.

7.5.3.2. Hydropower Trade

Pakistan is passing through a severe energy shortage which is becoming more violent in nature day by day. To meet energy crisis, Pakistan needs to develop its hydroelectric power station. China in this regard has assured to support Pakistan. These power stations would be converted into Gas and the energy corridor will equally be benefitted for Pakistan to secure its energy for domestic use. In Pakistan, energy demand has increased three times greater than supply and the energy shortfall has also risen. All this has worsened industrial output and many businesses have been resulted in closure of operations. Currently, Pakistan's crude oil import is almost 85 % of its total oil consumption. Islamabad is heavily dependent on the supply of petroleum products from the Persian Gulf, especially Saudi Arabia being the largest crude oil supplier. Under such scenario, security of energy supply becomes top most priority of the country's foreign policy along with China to sustain economic growth.

In addition, the proposed energy pipeline would also provide sufficient energy to Pakistan to fulfill its energy requirements for domestic and industrial sectors (Khan, 2013, pp. 88-90). Ensuring uninterrupted and enough energy to the industrial and agriculture sectors will, in turn, have positive impacts for achieving sustainable economic growth. Moreover, the energy pipelines will also pave the way for infrastructure development surrounding the pipeline regions which will also convert Gwadar port into energy hub port for Central Asia, Afghanistan and China. It is also under discussion to include China in the Iran-Pakistan-India gas pipeline project. India's reluctance to join IPI and TAPI gas pipelines could provide China to fill the gap. As discussed by Seher Abbas in his research paper that after construction of Gwadar port, China will construct a gas pipeline from Balochistan and Karakoram Highway to Xinjiang province of China (2012, p. 27).

7.5.3.3. Mining Exploration

China's heavy investment in oil, gas and minerals sectors is to secure its future needs (Sering, 2012, p. 28). Apart from exploring immense rich areas of the Duddar Zinc-led mine and a copper-gold mine at Saindak in Balochistan, Rickodek, is also one of the 4th largest deposit of gold and copper in the world. Rickodek in local language means hillock of gold. It is a mountain adjoining Chagi area which is filled up with costly reservoirs of mineral. According to estimates, the gold and copper reserves account for about US $260 billion. Due to financial constraints and lack of modern technology, Pakistan is dependent on foreign companies for their exploring, surveying, mining and refining. In this context, the economic corridor will play a vital role to facilitate China for the transportation of copper, gold, led etc from the Rickodek, Duddar Zinc-led mine and copper-gold mine at

Saindak. This could be beneficial for Pakistan in the development of its respective underdeveloped regions in the province (Mazhar, Javaid & Goraya, 2012, p. 117).

7.5.3.4. Exploration in Stone and Marble

Over the years, Pakistan's export of marble and granite to China has expanded from US $29.1 million in 2010 to US $63.5 million in 2011 (Pak exports of stones, 2012, p. A1). China offers a huge market for Pakistan's stone and marble sector and Pakistani exporters find tremendous opportunities in the trade, especially after infrastructure development (Co-op in stone, 2013). In China, Xiamen region has become a hub of stone and marble business. According to the statistics, the region is the world's largest stone and marble trading centre with over 60 % transaction volume in China and about 15 % across the world (p. A1). According to data of the Trade Development Authority of Pakistan (TDAP), China is recognized one of the main importers of Pakistani marble, especially of Balochistan's marble. China's import includes granite, basalt and sandstone from Pakistan (TDAP, official website).

7.5.4. Generation of Transit Revenues

China's planned energy pipelines from Gwadar port to its Xinjiang province will help generate transit revenues. A rail line between Gwadar and Kashgar will also be developed to establish a trade corridor (Khan, 2013, p. 89). The importance of railway connection would facilitate uninterrupted transportation between these two countries which is normally suffered due to the Karakoram Highway blockade during heavy landslide. The corridor will be a milestone to expand bilateral trade and further it would integrate

regional economic activities of Central, South and East Asia. The development of railway lines, over land energy pipelines, roads etc will generate transit revenue for Pakistan to improve its economy.

7.5.5. Gwadar-Karakoram-Kashgar Corridor: An Alternate Route to CARs

China has recently concluded an energy agreement with Tajikistan and Kyrgyzstan which is known as “Line D”. Under the agreement, Central Asian energy would flow through a new route from Turkmenistan via Uzbekistan, Tajikistan and Kyrgyzstan to the western Xinjiang province of China (Lelyveld, 2014, p. A1). The planned Gwadar-Karakoram-Kashgar Corridor could easily be utilized to avail long awaited energy from Central Asia via Xingjian province. This route would be an alternate energy route for Pakistan while bypassing Afghanistan as reflect in the map 7.2 below. The corridor expansion project would provide Pakistan an alternate route to access Central Asia’s vast energy resources through the western part of China while avoiding politically unstable Afghanistan. Moreover, Turkmen-Kazakh-China gas pipelines are in place which could possibly be extended to Pakistan through the Karakoram Corridor in the near future. Similarly, gas, uranium and Hydel power energy from Tajikistan, Uzbekistan and Kyrgyzstan will highlight the significance of the Karakoram as a viable corridor for the economic development of the entire region. The corridor development project envisages $34 billion investment in energy would connect Central Asia and China to the Asian Highway network (Planning Development & Reforms, Govt of Pakistan, 2014).

Map 7.2: Gwadar-Kashgar Gas Pipeline-An Alternate Route for Pakistan



Source: (Kaleem, 2014).

7.5.6. Employment Generation

The port will generate employment opportunities for people in Gwadar region in particular and in Balochistan province in general. According to estimates, 2.5 million jobs would be created (Gwadar port a dream for peace, 2013, p. A1). Most of Baloch people feel that Gwadar port would contribute a lot in providing a number of jobs and reduce tension in the province. Baloch leader Sardar Rauf Khan Sasoli applauded the government decision to hand over the port to Chinese who build the port largely from their own investment and would diversify its operations to get maximum benefits for China as well as for Pakistan

(Raza and Baruah, 2013, p. 4). According to Capt Haleem Siddiqui, Chairman Marine Group of Companies and a former Federal Minister for Water and Power, China's take over as port operation authority signifies that it is determined to develop hinterland infrastructure to link the port with rest of the country (p. 5). Moreover, it will help Pakistan's economy grow as the port will act as a regional trade hub.

7.5.7. Development of Balochistan Province

The connection between Gwadar port and Kashgar city will also help connect two regions across the borders Balochistan and Xinjiang, relatively neglected and abandoned areas for a long period of time, to serve as hubs for regional trade and economic activity. In Balochistan, Baloch tribes have long been demanding self-determination whereas in the Chinese Xinjiang province Uighurs, ethnic group, have also for long called for their right of self-determination (Yousaf, 2013, p. 8). In this context, improvement in infrastructure, industrialization of the area and linking these regions with developed areas would help both Pakistan and China suppress separatist movements in these two provinces. Moreover, Prime Minister Nawaz Sharif in his first speech to the nation announced his government plan to build Kashgar-Gwadar road and railways links to give practical implementation to the transit corridors linking Gwadar with Xinjiang region which a game changer project for the whole region (Durrani, 2013).

Planners in Pakistan are optimistic that the Chinese huge investment will bring an economic development in the poverty-hit Balochistan and would develop infrastructure in the province to capitalize its full potential (Cockayne, 2014, p. A1). By making Gwadar a

pivot of regional trade, both China and Pakistan would be able to diversify their economic development to the underdeveloped and past neglected areas, especially China's Xinjiang and Pakistan's Balochistan. The economic link between Gwadar and Kashgar would help China develop its Xinjiang region and Pakistan its Balochistan province (Haider, 2005). The resources will be spent on further development programmes like construction of roads, rail lines and dry ports connecting Pakistan with China, Central Asia, Afghanistan and Iran which would allow Pakistan and China to exploit the region's vast and unexplored natural resources to bring prosperity and socio-economic development in Balochistan and also in Xinjiang region by improving regional connectivity through the above mentioned infrastructural development (p. 97).

7.6. China's Long Term Fundamental Interests from the Corridor

Since the emergence of China as an energy importer in late 90s, it has adopted a 'go out' strategy to secure energy assets through procurement and long term energy investment in the energy rich countries, mostly in the Persian Gulf states and convert historical routes into a modern grid of energy pipelines, roads and railways for its energy supplies (Lin, 2011, p. ix). Initially, the strategy was motivated by the fear of US blockade of its maritime supplies over Taiwan issue but later growing Chinese energy requirement and industrial expansion were the driving force behind China's strategy of energy security. The oil-based economic growth of China has made it fully realized that oil could be used against it as a weapon to paralyze its economic growth. That's why, China prefers not to rely on unfettered international markets for its energy supply and energy security by controlling main oil supply routes has become high priority in China (p. x). The strategy

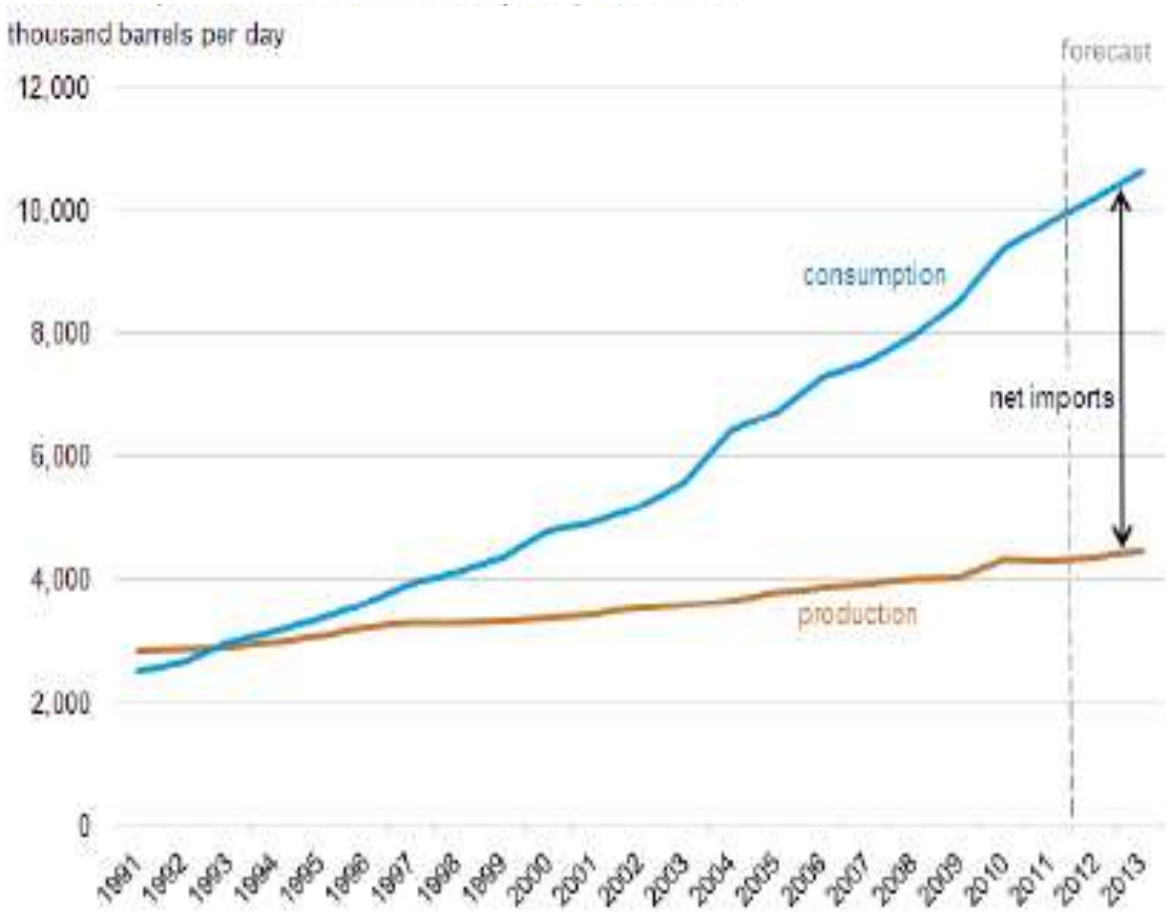
has mainly centered on using financial means such as building new seaports, infrastructure development and military and hydrocarbon cooperation between regional countries to establish an artery for ensuring uninterrupted crude oil supply to its territory.

Over the period, the strategy has been referred by many intellectuals around the world as the revival of the Silk Road Strategy. Today, China's strategy revolves around establishing its footholds with military or geopolitical influence by financing mega projects in the Indian Ocean and the Persian Gulf littoral states to secure sea routes. Day by day Chineses' energy requirement is growing to surpass production at home and oil imports have now reached record high in 2013. To ensure sufficient oil supply to its industries and secure its energy supply from geopolitical uncertainties, China's long term energy strategy is to diversify its sources for crude oil imports and secure its existing energy supply lines (EIA, 2014, p. 11). According to EIA estimates, China will import over 66 % of its total crude oil by 2020 and 72 % by 2040 as energy demand in China is expected to increase faster than domestic crude production (EIA, 2014, p. 11).

In order to secure more reliable oil and gas supplies, China has expanded its purchases of international oil and gas assets through financial loans in exchange for oil and gas (LNG) imports on control rates. China investment in exchange for oil deals have been done with Kazakhstan, Venezuela, Brazil, Ecuador, Bolivia, Angola, Ghana and Iran (EIA, 2014, p. 10). Over the period, China has become a fast-growing economy and has emerged extremely influential in world energy market due to its rapidly increasing demand for liquid fuels and will surpass the US as the world's largest importer of energy (BP Energy

Outlook 2035, 2014, p. 351). China's crude oil demand has surpassed from the US and now it is recognized the world largest oil consuming country. Figure 7.1 below reflects China energy consumption and production over the years. Until 1990s, China was considered as a net oil exporter and became the world's second largest net oil importer in 2009. According to the United States Energy Information Administration (EIA) statistics, due to China's growing crude oil demand has raised it the world's largest oil consumer in 2014. The EIA also reveals that China's rising oil consumption has reached to almost one-third of the world's oil consumption in 2013. According to the Oil and Gas Journal (OGJ), China has 24.4 billion barrels of proven liquid fuels reserves which is highest in the Asia-Pacific region. China, with its total oil and liquid production, stands fourth largest in the world energy production market, yet these huge energy reserves can hardly meet its domestic market (EIA, 2012). China's increasing energy demand hinges on various factors, such as domestic economic growth and trade, industrial development, power generation, transportation and refining capabilities (p. 4).

Figure 7.1: China's oil production and consumption from 1990-2013.



Source: (EIA, 2014, p. 9).

Following are some valid reasons for China to cooperate with Pakistan in the construction of Gwadar port:

7.6.1. China's Energy-Driven Economy

China is heavily dependent on oil imports to maintain its 9.5 % exceptional annual economic growth rate achieved over the past few decades (Kim, 2011, p. 27). China's ability to further expand its industrial-driven economy will directly epitomize its successes

in securing access to energy supply (Blazevic, 2009, p. 62). Security of energy resources implies security of ports and pipelines and the areas where China's energy transported. That is why, China has one of largest merchant marine fleets in the world to defend its maritime interests and the number of five star red flag ships is likely to grow in time as China is already working on an accelerated civil and naval shipbuilding programme (Goldstein, 2007, p. 26). Shipbuilding and ocean defence strategy of China has always been high priority as the country's almost 2 billion barrels of oil per annum is transported through tanker ships via different oceans (King, 2008, p. A1). In the modern times, ships are reliable and cost-effective means of transportation for oil and its refueling, shelter and repairs at seaports. China's construction of new ports and upgrading of existing ports is directed to achieve following objectives:

I. To shorten and safeguard shipping routes;

II. To reduce ship docking times;

III. To maintain control of ports so that shipping lanes remain open and free; and

IV. To link newly constructed port with mainland Chinese ports to form a conduit that can ultimately lead back to China.

To secure its area of critical transportation hubs and supply lines, China has embarked upon a maritime strategy to establish a link between the newly port of Gwadar port with its mainland ports to maintain self-sustaining and vertically integrated network of

economic enteritis (Ellis, 2010, p. 8). As a result, China has been successful in expanding its crude oil imports to a record 5.44 million barrels per day in 2010 (n-d, 2010, p. A1).

7.6.2. China's Quest for Energy

China is counted the most populous country in the world and has a fast-growing economy that has increased the country's overall energy demand. During the leadership of the fourth generations, China's economic development has remarkably grown and now it has become a potential global actor. High growth and development of all sectors of economy has equally raised the demand for energy in China. As revealed by the Paris-based International Energy Agency, China's energy consumption has surpassed the USA and has emerged as the largest energy consumer country in the world (Linn, 2011, p. ix). Over the period, China has achieved a double digit economic growth by fuelling energy to heavy industry.

China has emerged as the largest energy consumer and importer in the world. Over the period, the country has substantially progressed in the industrial development and has emerged as one of the fastest growing global economies. According to available statistics, Chinese energy requirement is expected to grow by 150 % by 2020 if the country's economy keeps growing at the rate of 8 to 10 % per annum. To maintain its economic growth for coming years, China needs to increase its energy (oil and gas) imports and at the same time has to secure its current oil import supply (Amir, 2004, p. 122). In late 70s and early 80s, China was registered as oil exporting country but shortly after the post cold war, its industrial expansion and rapid economic growth has converted it as an oil dependent country to meet its energy requirement though oil imports, mainly from Persian

Gulf region. Beijing's concerted efforts to increase trade and investment, specifically in the energy sector are motivated to secure ongoing access to Middle East. As a consequent, China has heavily invested in the energy fields across world. Middle East's abundant energy reserves and low cost of its exploitation has made it more lucrative than others (Mottaghi, Nouri & Nasiri, 2013, p. 1).

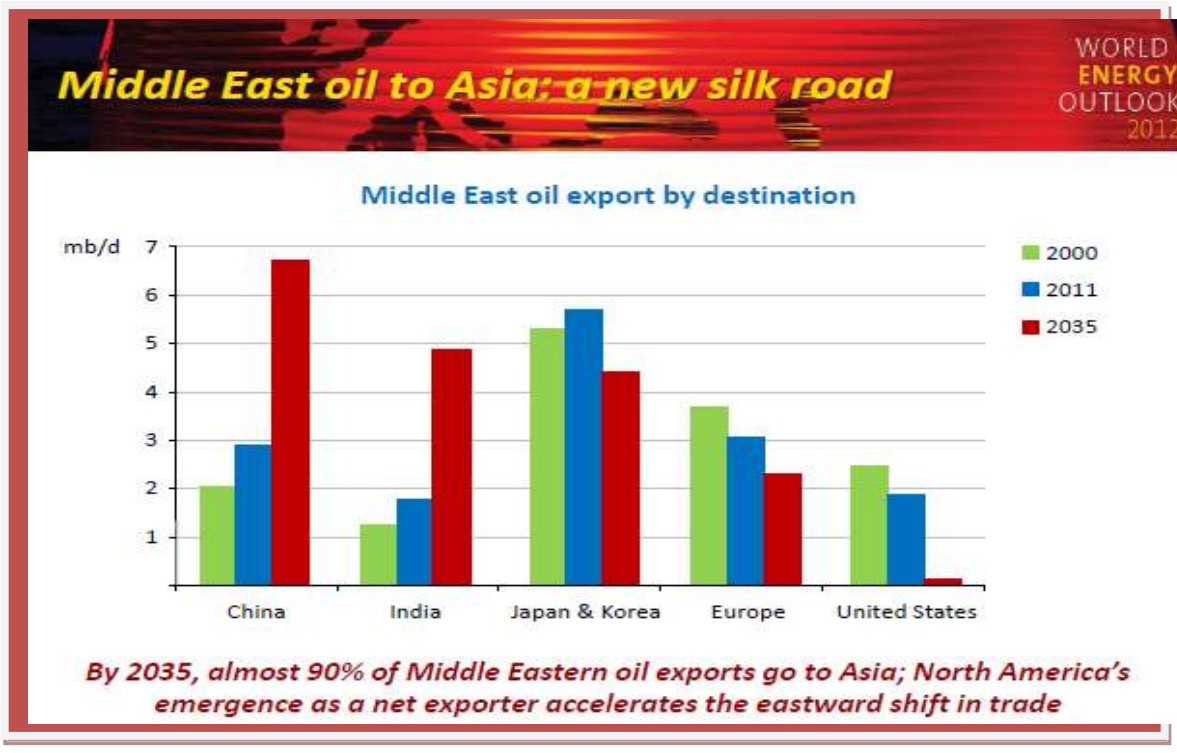
China's rapid industrial development and economic growth has resulted in its pursuit for energy security. China's domestic production of oil remains insufficient to meet the industrial energy requirement. As a result, China's crude oil demand is rapidly soaring and Chinese heavy dependence on crude oil has led the country to extend its petro diplomacy to all oil exporters in the world by signing favorable financial deals and investment with countries like Saudi Arabia, Iran, Libya, Angola, Venezuela and Central Asian States (Saeed, 2011, p. 229).

Few decades ago, natural gas was not used by Chinese as a main source for power generation and gas consumption in the country was around 3 % (p. 230). In the recent past, China has converted its power generation on the natural gas to reduce heavy cost incurred from crude oil. Moreover, its domestic natural gas proven reserves have also increased to 51.2 trillion cubic feet (British Petroleum Company, 2011, p. 20). As a result, Chinese natural gas consumption reached up to 107 billion cubic meters and is likely to grow further.

7.6.3. Security of Persian Gulf Energy Resources for China

Persian Gulf, with its 62 % of world oil and 40 % of the gas reserves, is considered one of the strategic regions in the world (Richard, Murphy, Gause, 1997). The region's vast energy reserves have attracted the world powers attention, especially China in the present millennium. China's global strategy is based on its peaceful coexistence to support peace, stability and economic development across the world. The close bonds between China and the Middle East traced back to 500 B.C. when there were only two prosperous dynasties: Arabian Empire and Tang Dynasty which traded through the famous Silk Road (Saeed, 2012). By the end of the Cold War, China had already established strong diplomatic relations with all countries of Gulf Cooperation Council (GCC) and Middle East. Bilateral trade between China and the Middle Eastern countries has expanded from US $67 billion in 2005 to US $118 billion in 2009 (p. 232). For China, Middle East is not only a key source of energy but also a huge business potential market (p. 234). Figure 7.2 reflects growing dependency trend of China on Middle East for import of crude oil.

Figure 7.2: China's growing dependence on Middle East for import of Crude Oil



Source: (World Energy Outlook, 2012, p.6).

7.6.3.1. Saudi Arabia: Pillar of China's Oil Diplomacy

Since the third millennium, China has prioritized two main objectives in its foreign policy: energy and security. To ensure energy supply to its industries, China has heavily invested in the exploration and extraction of many oil fields in various parts of the world. Persian Gulf remains predominant exporter of oil to China, despite its efforts to diversify the oil resources. In the Persian Gulf, China has concentrated mainly on the two energy rich countries namely Saudi Arabia and Iran. China has, therefore, developed extensive commercial relations with these two resource rich countries in the region.

Over the years, China has become Saudi Kingdom's fourth largest importer of its oil. The Kingdom provides almost 20 % of China's imported oil. According to the Chinese Ministry of Commerce, mutual trade between Saudi Arabia and China has increased from 440,000 b/d in 2004 to 500,000 b/d in 2005, reaching by 41 % growth (p. 2). Bilateral trade between the Kingdom of Saudi Arabia and China has expanded from US $ 14.5 billion in 2005 to US $41.8 billion in 2008 (Backgrounder, 2009, p. A1). In 2011, Chinese oil imports from Saudi Arabia increased to 1.1 million b/d as a result of an agreement signed between Saudi Arabia oil firm Aramco and Chinse oil firm Saino Pack (Jones, 2013, p. A1). Saudi Aramco owns refineries in Qingdao and Fujian provinces of China whereas Chinese energy firms are contributing in Saudi infrastructure and industry

sectors. Meanwhile Saudi Arabia is also considered one of largest trading partners for China in the Middle East (Lin, 2011, p. x).

7.6.3.2. Iran: A Reliable and Cost Effective Energy Source

Iran is the second pillar of China's oil diplomacy in the region. Iran is the third largest exporter of oil to China and contributes about 11 % of China's imported oil supply. China's trade relations with Iran also traced back to the fifteen century when trade between these two countries routed through the Silk Road (Saeed, 2012, p. 233). China has equally invested in Iran in different projects including exploration of crude oil, production of petroleum, petrochemical, natural gas extraction etc. In the recent past, China's oil imports from Iran have considerably reduced on account of US sanctions. Currently China is importing 402,000 b/d from 555,000 b/d in 2011 (Verma & Cho, 2013). China has also signed a number of service contracts with Iran to explore Azadegan and Yadavaran oil fields. Between 2005 and 2010, Chinese energy firms signed a contract worth US $120 billion with Iran to work jointly in hydrocarbon sector (Lin, 2011, p. x).

7.7. Geo-Economic Imperatives of the Corridor for China

Before the construction of Gwadar port, China always found its security interests compromised due to its incapability to monitor the Persian Gulf and Indian Ocean region (Sering, 2012, p. 32). Security before Chinese does not imply to territorial but it is more related with energy and maritime security (Mottaghi, Nouri & Nasiri, 2013). Chinese are fully aware of the fact that Pakistan can only provide shortest and viable entrance to the

Persian Gulf. Security in the Persian Gulf before China is a high priority as the country's oil imports has reached to nearly 55 % from the region (Schenker, 2013, p. A1). Importance of energy for Chinese economy has pushed Beijing to construct Gwadar port in order to safeguard its oil supply from the Persian Gulf and also maintain presence in the Indian Ocean to monitor naval activities of US and India. China will accrue following potential gains from the corridor.

7..7.1 Gwadar-Karakoram-Kashgar: Securing Energy Resources for China

China's main interests in the Gwadar port development are to consolidate its relationship with Pakistan through large-scale collaborative economic development projects in order to safeguard its oil supply routes and diversify its oil import from the Gwadar port which is geo-strategically located at the entrance of Persian Gulf (Haider, 2005, p. 98). China crude oil import from the Middle East is more than any other region of the world. China gets about half of its oil requirement from the Gulf (Sering, 2012, p. 28) and another 30 % from Africa (Hurst, 2006, p. A1). Africa is also China's second largest trade partner (Hanson, 2008, p. A1) with volumes reaching US $ 107 billion in 2008 (Macharia, 2009, p. A1). In 2011, China received 2.9 million barrels per day import of crude oil from Middle East which accounts for about 60 % of China's total oil imports (Downs, 2013, p. A1).

Persian Gulf continues to remain China's largest source of crude oil imports (EIA, 2014, p. 11). The Kingdom of Saudi Arabia and Angola are the main sources of China's oil imports which account for over 33 % of its total oil supply. Figure 7.3 shows China's

crude oil imports by source. According to estimates, China's hydrocarbon consumption has more than doubled over two decades and would continue to increase in the next decade. About 85 % of Chinese energy supply passes through the Indian Ocean to China's Pacific Ocean ports (Denmark & Patel, 2005). While explaining Chinese vulnerability in the Malacca, the Chinese President Hu Jintao refers it China's "Malacca Dilemma" which means that the Chenese reliance on the supply of energy resources through narrow transport sea lines is a weak point that could be exploited by adversaries (Ji, 2007). The blockage of the Malacca leads to severe loss to the Chinese economy. Heavy dependence on crude oil from Middle East and Africa for sustainable economic development, energy security has become a top most priority of China's foreign policy. Following are the risks and threat perceived by China to its energy imports and security:

7.7.1.1. Political Risk

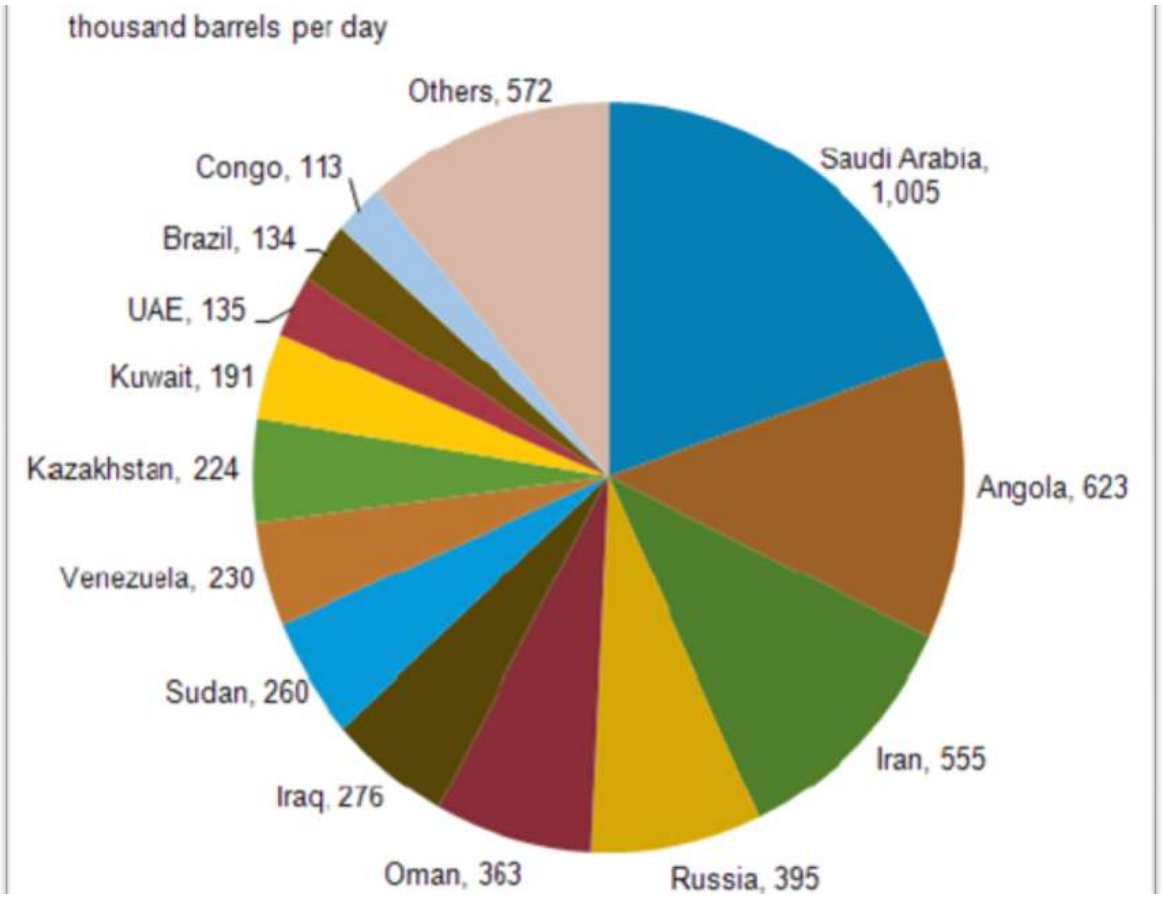
Oil is a political instrument and a strategic tool to exert pressure on importers for certain goals or purposes. 1973 oil embargo was first ever international event made by Arab states during Arab-Israel war to influence world leaders against Israel. Having gone through such experience, China has heavily invested in the littoral states of Indian Ocean, especially Pakistan's Gwadar port, to secure its energy supply and seek a shortest alternate route to its main land.

7.7.1.2. Transportation Risk

China's around 60 % crude oil imports shipped through the straits of Malacca every year and thousands of ships follow this route with full capacity (Zhang, 2008). In the presence

of the United States in the Yellow Sea region, China would always seek an alternate course for its energy supply to avoid any US blockade. Moreover, piracy activities close to the Strait of Malacca is another security concern for China's oil transportation. Over the years, a number of piracy activities happened near the Somalia Coast. In this context, Sino-Pak economic, strategic and political interests are interlinked. Gwadar port's overland connection with China's western area presents a foolproof security to China. The port provides a shortest and viable alternate route for Chinese trade and energy supply in case of Malacca Strait is blocked by US (Malik, 2012, p. 58).

Figure7.3: China's Crude Oil Imports by Source, 2011.



Source: (EIA, 2014, p. 12).

Over the years 30 years especially after cold war, China has emerged as a leading global economy with ten % growth in its annual GDP growth rates (Hartley, 2010). Therefore, security of its energy and trade flow routes of metals, minerals, markets for its manufactured goods has been the top most priority of its foreign policy (p. 96). In this regard, the completion of Gwadar-Karakoram-Kashgar corridor, China will stand to benefit from the corridor to import its energy and raw material from the Persian Gulf while avoiding the Strait of Malacca and the Suez Canal, the most sensitive chokepoints of the world, which are mostly targeted by Pirates. On the following grounds, the geo-economic and geo-strategic significance of the Gwadar deep sea port for China becomes indispensable for its energy imports:

7.7.1.2.1. In the prevailing deteriorating political situation in the Persian Gulf, Gwadar deep sea port provides a stable and contiguous point of access to the Gulf ports. The economic and strategic significance of the Gwadar deep sea port is multiple.

7.7.1.2.2. Close proximity of the port with Strait of Hormuz, one of the main oil supplies sea routes in the world, Gwadar port will serve as a shipping point in the region.

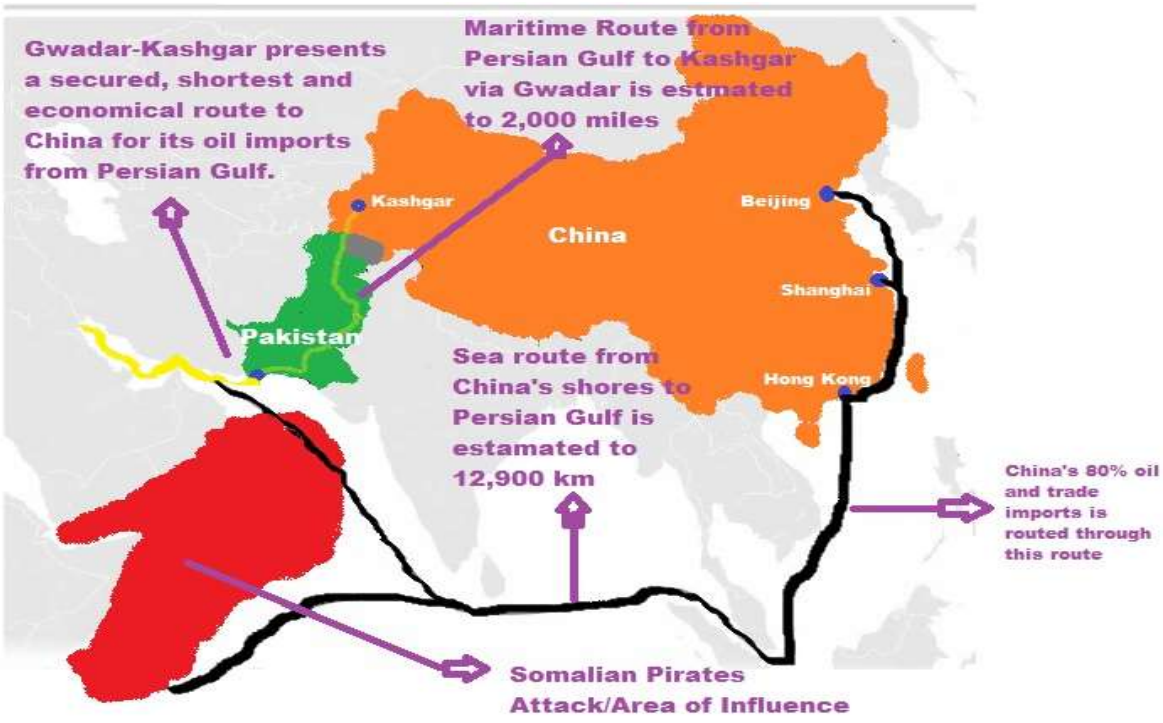
7.7.1.2.3. The port will facilitate the landlocked Central Asian States and Western China's Xinjiang province with a shortest sea access.

7.7.1.2.4. Having assessed the length of the sea route and narrowness of the Malacca Strait through which 80 % of Chinese oil transported to China remains a security challenge.

7.7.1.2.5. The Gwadar-Karakoram-Kashgar energy corridor will be an alternate route for China's oil import if the Malacca Strait is blocked.

The corridor will facilitate China to offload its crude oil imports from the Persian Gulf at the Gwadar port and transport or pump it overland to Kashgar. The Gwadar-Karakoram-Kashgar corridor will, therefore, decrease Chinese vulnerability to disruption and closure of Malacca Strait and South China Sea (Sering, 2012, p. 30). Moreover, the corridor also offers a logistical benefit by significantly reducing the distance of 16,000 km to only 2500 km between China's industrial mainland and Persian Gulf as reflected in figure 7.4 (Sering, 2012, p. 32). China's oil imports from the Persian Gulf through old maritime routes is about 12,900 km which is also threatened by the Somalian Pirates (Siddiqui, 2014, p. 9). Whereas, China's oil imports from the Persian Gulf to its Kashgar economic zone via Gwadar presents a viable and secure maritime route which is almost 2,000 miles as reflects in below figure 7.4.. Likewise, China's Kashgar is 3,500 km away from the Chinese east coast while its distance is less than 2,000 miles from Gwadar port. In addition, a 1,100 km long rail-link worth costing US $10.237 billion would reduce the distance between Pakistan's capital and China's Kashgar, a trade and economic zone, to a mere seventeen hours.

Figure 7.4: Shortest Route from Gwadar port to Western China.



Source: (Kaleem, 2014).

7.7.2. Gwadar-Karakoram Energy Pipeline

Natural gas consumption in China has equally risen in the same period in discussion. China is planning to meet its natural gas demand via gas pipeline and imports of Liquefied Natural Gas (LNG). Rapid growth in natural gas demand has driven China to become the third largest LNG importer in the world. This has equally led China to speed up

development pipeline infrastructure for LNG imports. China's natural gas demand has equally risen in the recent past. China is planning to increase domestic natural gas production in order to replace hydrocarbons with natural gas in the country's energy portfolio (OGJ, 2014). Natural gas consumption in China stems from Industrial usage (almost 48 % by 2011), power generation, residential and also in transport sectors have risen (PFC Energy). To meet this demand, China will continue importing gas through gas pipelines and LNG form (EIA, 2014, p. 17). China's investment in gas pipeline infrastructure is too high to link its production areas in the western and northern regions with demand centers along the cost and borders to facilitate greater imports from Central Asia and Iran (p. 23). That is why, China has promoted the construction of the West-to-East Gas Pipeline in 2002 to mitigate energy requirement in the demanding areas. Moreover, these domestic pipelines would also be linked with international pipelines of Central Asia and Iran via Pakistan (p. 24). Another mega project of oil and gas pipelines (OGP) will run across the corridor while connecting western part of China with IP and TAPI via Gwadar port (China interested in Trans Himalayan, 2006, p. A1). Vice President of Federation of Pakistan Chambers of Commerce and Industry (FPCCI), Gwadar-Xinjiang link would help Pakistan overcome the gas shortage besides strengthening country's economy (Gwadar port, 2013, p. A1). Moreover, China would be able to take advantage of TAPI and IP gas pipelines through this corridor. Railway link is also under consideration to connect Central Asia, Afghanistan and Pakistan which could also be extended to China through the existing railways lines. The corridor will continue supplying energy to China as an additional supply line.

7.7.3. Gwadar-Karakoram-Kashgar Corridor: A step towards Xinjiang Development

Economically, China has been divided into eastern, central and western parts. After economic reforms, the government's more focus remained on the development of its eastern region which is also known as the coastal region (Saeed, 2011). In late 90s, China made a long term strategic planning to develop its western part which is underdeveloped as compare to the central and coastal parts of the country (p. 89). According to Ramtanu Maitra, China's east-coast infrastructure is not supportive to the development of its southern and western regions and other inlet points are required to feed these regions (2005, p. A1). Chinese 'Go West' strategy can also be viewed to uplift economic development of its western province (Malik, 2012, p. 62). China's investment in Gwadar port and the KKH is aimed at establishing shortest and viable energy and trade corridor from its Western province of Xinjiang to world markets via Gwadar. Gwadar port has bright prospects to develop Xinjiang province as all trade and oil supply to China would be routed through a shortest and viable trade and energy corridor linking these two provinces with Central Asia, Persian Gulf, Africa and India (p.2). To expand traffic flow and fuel consumption, China has planned to invest US $730 billion in the transport sector in the west China (Unlocking Africa, 2008) and US $88 billion in Xinjiang (By 2050, China plans, 2009, p. A1). According to some analysts, China's huge investment in the Gwadar port and its related projects was actually based on the fact that its underdeveloped western region would be connected with the port to put off emerging strife in the region.

According to Zaid Haider, Chinese officials have publicly stated that China wants to turn Gwadar port into a transit terminal for supply of its crude oil from Iran, Middle East and

Africa to Xinjiang region, facilitating China to secure its oil shipments along the existing routes (2005, p. 98). The Gwadar-Karakoram-Kashgar corridor will help China develop its relatively backward western regions, particularly Xinjiang which borders with Pakistan. The port location would facilitate China to transport its goods via its western region to the port which would generate a variety of economic opportunities for the local people in the region. China's plan of establishing oil and gas pipeline with an oil refinery at Gwadar port would also facilitate China's energy supply from Persian Gulf and Africa to Western China.

In addition, China lacks hot waters ports which can be operational throughout the year. The Shanghai port is almost 16,000 km far from the industrial zone of China and trade through sea takes months and costs heavily in terms of taxes and duties. Gwadar port on the other hand is not only a hot waters port and can be used whole year but also closer to China just at a distance of 2,500 km and 1,500 km from Kashgar economic zone from Chinese border.

7.7.4. China's Trade Expansion

Gwadar-Karakoram-Kashgar corridor linking Pakistan's port with China's western region, especially Kashgar economic zone, is a viable supply chain route to facilitate bilateral and regional trade among the states encompassing Pakistan, China, Central Asian States, Afghanistan and Iran. After completion of the ongoing projects across the borders, China and Pakistan will largely be benefited from the corridor to expand their economic, strategic and commerce relationship (Khan, 2013, p. 87).

Simultaneously, overland access to Afghanistan and Iran through Pakistan will considerably diminish threat perceptions emanating from the Indian and American presence in the Indian Ocean. The existing Karakoram Highway other infrastructure between Pakistan and China would help China expand its trade with Iran, Middle East, Central Asia and Africa as the corridor will decrease the sea distance up to almost 10,000 km (Khalid, 2009, p. 8). Chinese economy is rapidly growing at the rate of about 9 % per annum with its trade expansion volume of US $1.76 trillion and GNP growth up to 7.3 % (Malik, 2012). China has estimated US $600 billion of foreign exchange reserves (p. 61). China's international trade items include micro wave ovens, photo copiers, Shoes, toys and CD players (p. 61).

7.7.5. Geo-Strategic Imperatives of the Corridor

With the expansion of the KKH, Pakistan would be able to strengthen its military bases near LoC and also facilitate its troops and heavy military vehicles to penetrate swiftly and even deeply into Ladakh and the Kashmir Valley. Likewise, the road connection along Qala Panja, Mintaka and Wakhjir Passes would facilitate Pakistan with a direct link with Afghanistan and Tajikistan (Sering, 2012, p. 12). The strategic dividends of the Karakoram corridor are equal for China. The corridor would allow Chinese to use Pakistan as a low-cost but high-efficiency deterrent against Indian growing political ambitions (Afridi & Bajoria, 2010, p. A1). According to available resources, the corridor has facilitated China to secretly assist Pakistan militarily. On the other hand, Pakistan has used the corridor to provide high-tech arsenal and unexploded American missiles, received during Afghan war from America, to China for reverse engineering (Sering, 2012, p. 18). Recently, Pakistan gave access to Chinese engineers to the American

Blackhawk chopper that worn-out during the commando raid that killed Osama bin Laden (Pakistan let China see 'stealth' chopper, 2011, p. A1). Overall, the corridor would be a great assistance for Pakistan to strengthen its military presence along the Indian border and enable its army to station in PoK for close watch on the enemy activities (Sering, 2012, p. 18).

Box 7.1. Case Study: The Impact of Trade Corridor on Lao Peoples' Republic

Another similar trade corridor known as 'The East-West Economic Corridor (EWEC)' connecting Lao Peoples' Democratic Republic is a glaring example of regional economic integration and development. The corridor has considerably reduced travel times and proved to be economical in cost. Other economic impact can be manifested from the fact that number of buses increased from 600 in 2000 to 1600 in 2005 whereas figure of transport authorities and operators went in double digits in the same period. On the developmental and infrastructural side, new townships with modern houses, markets, malls, restaurants, hotels, factories, automobile repair shops, fuel stations, and other micro enterprises established which further contributed in strengthening the Lao's economy.

Source: (Luanglatbandith, 2007).

7.8. Conclusion

If all goes as per development plan, then by 2030 Pakistan's trade earning would be substantial. The success of Pakistan's ambitious economic plans will depend on the volume of trade passing through Gwadar-Karakoram-Kashgar corridor. Pakistan's survival as an economically developed state is important to Chinese dominance and influence in South Asia, Central Asia and Persian Gulf. The Gwadar-Karakoram-Kashgar corridor has the potential to bind Pakistan, China, Afghanistan, Iran and Central Asian States into a regional economic and security block which will in the long run keep Western influence at bay in the region. The expansion of the rail network to include Iran, Afghanistan and Central Asia will enhance economic prospects in the entire region.

In Pakistan's foreign policy, sustainable economic growth and security are its primary priorities. To achieve these two objects, China's investment in the construction of the corridor will be a great assistance for Pakistan on these fronts. Moreover, China's close association with Middle East and Africa and the proximity of Pakistan's Gwadar port to the energy hubs, the Karakoram corridor emerges as a future primary oil supply route to China (Blank, 2010, p. A1) The usefulness of Karakoram corridor for China is linked with its ability to transport the required quantity of crude oil from Gwadar port to Xinjiang (Sering, 2012). The corridor will act as an alternate supply line which will help China stockpile oil reserves to counterbalance future shortage. In this context, Pakistan's Gwadar port and Karakoram emerge indispensable for both China and Pakistan for their economic development (p. 29-33). In addition, Pakistan clearly stands to benefit massively from the Gwadar port as a trade and energy corridor linking China, Central Asia, Afghanistan, Iran and even India to earn immense transit revenue.

In brief, the conduit would provide a variety of world class transport services such as modern dry-port infrastructure, freight management, trucking, border terminals, customs clearance and an efficient logistical chain which would help expand regional trade (Shah, 2007, p. A1). The corridor is expected to expand economic activities between the two neighbors with an advantage to advance their strategic interests in the Persian Gulf.

CHAPTER - 8

GWADAR PORT: SERVING STRATEGIC INTERESTS OF PAKISTAN

> *"The Indian Ocean area will be the true nexus of world powers and conflict in the coming years. It is here that the fight for democracy, energy independence and religious freedom will be lost or won."*
>
> (Kaplan, 2011, p. flap cover).

8.1. Introduction

The contribution of geographical environment in the development of human society has been commendable. Sea, with its three-quarters of the earth surface, is the most important feature of the environment (Malik, 2012, p. 57). The sea has always been a main pool of resources and presents numerous opportunities to promote national interests. In the new millennium, the aspect of maritime security has got momentum worldwide as the cumulative impact of globalization has transformed states into a system of interdependence for greater economic growth and output by trading with complementary products and resources. Maritime security, therefore, revolves around the safety of the sea and Sea Lines of Communication (SLOC) for political, economic, strategic, military, scientific and technological interests (Tahir, 2008). The security of SLOC is of immense importance for a country whose trade is seaborne. The vulnerability of a nation's seaborne trade could devastate its entire economic

system of imports and exports (p. 195). It is, therefore, considered imperative for littoral states to ensure maritime security for impregnable coastal defence and protection of national security.

Almost all maritime states have certain strategic interests and the scale of these interests vary from state to state based on geo-political setting of the region (Nawaz, 2004, p. 64). These interests can be categorized as maritime and strategic. The maritime interests are related to the security of seaborne trade by ensuring freedom of navigation and protection of sea lines of communication and exploitation of Exclusive Economic Zone (EEZ) whereas the strategic interests include the defence and protection of coastline of the state both during peace and at wartime (p. 64).

8.2 Global Security and Role of Critical Sea Lanes in the Indian Ocean Region

Strategic uncertainty has made the geo-politics of the Indian Ocean more dynamic and complex among energy importing countries as they are passing through a very critical security and political situation. Regional political dynamics such as security situation in the Middle East, prevailing conflict in Afghanistan, Iran-US tension over nuclear issue, Pakistan-India divergent regional interests, China growing regional influence and the US counter balancing strategy have further complicated geo-political scenario (Bateman, Chan and Graham, 2011, p. 41). In this context, Sea Lanes used for global trade and energy transportation in the Indian Ocean and Arabian Sea are critical for littoral states due to their cumulative geo-economic and geo-political impact on the world political scenario. Even temporary disruption of

these sea lanes in the region can lead to have severe global economic impacts. The critical importance and role of the sea lanes are briefly discussed in the subsequent sections.

8.2.1 Global Trade Corridor

The Indian Ocean region, with highest tonnage of goods, is recognized the world's most important trade and energy corridor. The global trade corridor accounts for the transportation of a large volume of international long haul maritime cargo and almost 80% % of the total traffic of petroleum products for the whole world (Cordner, 2011, p. 73). Some of the primary items from the export list are mostly energy products. The Strait of Hormuz, being a main corridor, facilitates and links trading between the world regions (Ghosh, 2004, p. 3). Moreover, almost half of the world's trade by value is routed through this chokepoint (Ahmad, 2009, p. 87). The east-west shipping lane is the main global trade corridor that accounts for thousands of merchant vessels in the region (Khan & Aijaz, 2012, p. 37). As a consequent, maritime security in the Arabian Sea is the high priority of the world powers to ensure uninterrupted flow of trade and freedom of navigation (Ahmad, 2009, p. 87).

8.2.2 Global Energy Corridor

Energy supply to industrialized and developing economies is routed through this region. The United States, China, European countries, Japan and many others are the main importers of crude oil from the Gulf region (Das, 2010, p. 64). The Strait of Hormuz linking the Persian Gulf and the Indian Ocean has more importance in the

world as a main energy corridor than any other energy route in the world. Every day, almost 17 million barrels of crude oil supply accounting for 20 % of the world's per day passes through this main chokepoint (Klare, 2012, p. A1). The disruption of energy supply will be a security threat to the maritime interests of the industrial states as a majority of their energy lifelines are sea-based (Ghosh, 2004, p. 1). Moreover, energy plays a key role in influencing the geo-political strategies of these nations, any such disturbance in its supply would have severe economic, political and security consequences for the entire world. The closure of the Strait of Hormuz can cause disorder of seaborne trade and rise in the global oil prices. According to a source, closure of the Strait practically cuts completely off Gulf supplies to the East and substantially affects the West which could result in soaring global oil prices up to 50 % thereby bringing recession in the world (Ghosh, 2004). Therefore, energy security in the South Asia as well as surrounding regions has become a high priority for sustainable economic growth.

8.2.3 Oil Transit Chokepoints

Chokepoints are narrow channels along extensively use global sea corridors. These straits are critical for global energy security as the high volume of world oil supply is routed through these chokepoints (Ho, 2011). The Strait of Hormuz and the Strait of Malacca are two important strategic chokepoints in the Arabian Sea and the Indian Ocean. Former links the Persian Gulf with the Indian Ocean and latter connects the Indian Ocean with the Pacific Oceans. Another significant route is the Bab-el-Mandab which links the Arabian Sea with the Red Sea and leads to the Suez Canal (p.

36). The international oil and energy market is largely dependent on a reliable supply and transport because blockage or temporary suspension of energy supply can lead to affect energy prices in the international market. The security of the oil tankers is also vulnerable to theft from pirates and terrorists attacks. The security of shipping and seaborne trade in the Indian Ocean and the Persian Gulf is a key strategic interest of all regional and extra-regional states, especially China, USA and Japan who are the main stakeholders (Bateman, Chan and Graham, 2011, p. 42).

8.2.4 Strategic Importance of Strait of Hormuz

The Strait of Hormuz is a key chokepoint to facilitate world's energy flow from the Persian Gulf. Otherwise, enclosed waters of the Persian Gulf could not be linked. It connects the Persian Gulf with the Arabian Sea and the Indian Ocean via the Gulf of Oman, with the Sultanate of Oman's Musandam Peninsula on its southern shores and Iran to the north coast (Ho, 2011, p. 36). At its narrowest aspect, the channel is 21 miles wide and ships are controlled and facilitated with passage under a Traffic Separation Scheme (TSS) mechanism which has 10 km wide traffic lane to separate inbound traffic from outbound to reduce any chance of collision. To navigate the Strait, ships pass through the coastlines of Iran and Oman. The majority of crude oil and energy supply of Liquefied Natural Gas (LNG) is exported to United States, China, Western Europe and Asian countries through this chokepoint. The two 3.2 km wide shipping lanes, separated by a buffer zone, are positioned inside Omani coastline. Roughly 32 km across at its narrowest point, The Strait of Hormuz is a main channel which facilitates the supply of crude oil of majority of the Persian Gulf

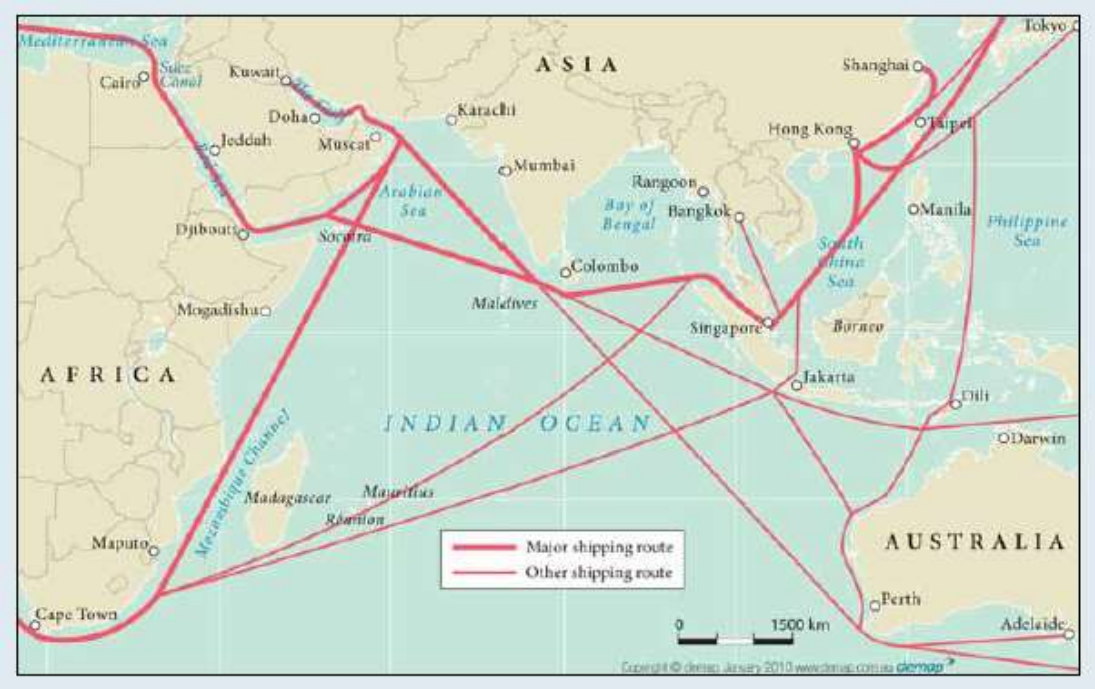
and Middle (Luke, 2010). 90 % hydrocarbons exports of the Persian Gulf, over 40 % of world's oil export (between 16.5 and 17 million barrels per day (bbl/d)) and supply of the liquefied natural gas from Qatar are being transported through this channel (p. 151). To sustain global economy for western economies headed by United States, Japan, Australia and Europe, keeping the Strait of Hormuz open is considered critical. However, the closure of the Strait of Hormuz for a long time may cause severe global economic crisis. Non-availability of Persian Gulf's energy supply would bring energy crisis in the world and per barrel cost of oil would swiftly break through the US $ 100 mark and rise in price even likely to continue until the oil supply is restored through the strait (Luke, 2010, p. 152).

8.2.5 Protection of Sea Lines of Communication

The SLOC links the entire world. During peace times, these arteries serve as vital commercial trade routes and during war these arteries act as strategic lines of communication between war zones (Good, 2002, p. 22). The growing demand for energy has driven world powers especially United States, China, India, Japan and European States to ensure the security of the SLOC and chokepoints of the energy supply in the region (Ghosh, 2004, p. 1). The economic development of a country is closely associated and linked with international trade and energy supply (p. 2). The South Asian states in this context are not indifferent as the developments of their economies are largely dependent on seaborne trade and security of SLOCs. India and Pakistan in the region have a very pivotal position as far as the Sea Lines of Communication is concerned as both the countries are nuclear adversaries with

unresolved territorial disputes. War between these two can trigger disruption of SLOCs and even results in the closure of chokepoints which could further disturb the entire world economic order. That's why; conflict between these two arch enemies always alarms the world and has the potential to acquire an international dimension. This can be one of the reasons that justifies the permanent presence of the United States and keen interest of China in the Arabian Sea to ensure supply of the energy. Map 8.1 reflects main shipping routes of the world.

Map 8.1: Major Shipping Routes of the World.



Source: (Asian and Indian Ocean, p. 10).

8.2.6. The Geopolitics of Energy in the Indian Ocean

The Asian states rapid demand for energy has led the politics of energy in the Indian Ocean a key focus of contemporary strategic interest (Basrur, 2011). The gap between

supply and demand has evolved strategic competition among states in which China leads the surge (p. 32). In such emerging international system, states can go the extreme level to ensure energy supply for their countries to expand their economies. The energy factor has exponentially multiplied the importance of the Indian Ocean. About one out of every three barrels of crude oil reserves in the world is occupying by either Saudi Arabia with 259 billion barrels of reserves or by Iraq having 112 billion barrels of reserves (Robert, 2003, p. A1). The world need for energy has grown by 95 % over the last thirty years (Ahmad). It is estimated to grow by another 33 % during the next fifteen years and by 45 % during the next 20 years (2009). According to available resources, the Persian Gulf region contains about 60 % of the world's proven crude oil and almost 45 % gas reserves (p. 88).

8.3 Pakistan's Geo-Strategic Interests

The strategic interests are associated and determined with the country's scale of maritime dependence. Every year, about 36,000 ships transit through Pakistan's area of interest (Malik, 2012). 95 % of Country' annual trade from its total 38 million tons is routed through sea (p. 57). Pakistan's coastal region, on the other hand, offers immense economic and strategic opportunities to support its economy in many ways. All maritime nations have a certain continental or maritime preference in its strategic direction based on its physical and political geography (Nawaz, 2004, p. 64). According to available estimated projection, Pakistan's annual trade would increase up to 91 million tons by 2015. This rise in commercial activities would give

substantial boost to the economy. Pakistan's dependence on seaborne trade to sustain its economic growth has already been discussed in detail in the chapter 3.

These interests vary from state to state depending on a variety of geo-strategic and geo-economic factors. Pakistan's geo-strategic interests are determined from the following geo-strategic and geo-political vulnerabilities:

8.3.1 Animosity with India

In modern political era, security of nation state is a complex phenomenon and no single established concept of security definition exists which may be acceptable to all states in the world. Every state, therefore, has its own specific security definition and priority as per its strategic interests (Bukhari, 2011). States have different outlook on their security priorities which may be trivial for other. For example, for Beijing economic security, political independence and avoiding hegemony in the region could be the priorities but to the United States, fight against terrorism and favourable international environment would be the preference in its foreign policy (p. 11).

Similarly, for Islamabad, India is the security priority of its foreign policy. Pakistan's security dilemma arises with the growth and development of Indian national and military power which could not be ignored. India is perceived by Pakistan as a potential threat to its existence. Since the partition of sub-continent, New Delhi never missed any chance to destabilize Pakistan and the country has experienced very odd periods with its eastern neighbor and two rivals have also waged three large wars and

many small skirmishes. Despite overt nuclearization of South Asia in 1998, deterrence could not preclude the possibility of armed conflict as the region experienced a limited war in Kargil in 1999 (Tellis, 1997, p. 2). On the other hand, India's focus on naval expansion and move to accrue maximum maritime interests are based on the country's dependence on sea to sustain growing economy (Nawaz). Moreover, India's maritime strategy has been directed to achieve a sea-based second-strike capability which will destabilize the strategic balance existing between Indian and Pakistan as former will gain an edge over the later with strategic capability to annihilate in case of nuclear war (2004, p. 67).

8.3.2 Pakistan's Dilemma about Strategic Depth

The military concept of strategic depth implies to the distance between potential frontlines and key centers of logistics, military productions, industrial regions and areas of population. It is also refers as heartland of the country. Military strategic depth needs vast territory or space in the interior to retreat to extend the SLOC of the enemy and then regroup to mount a counter-strike (Malik, 2012, p. 58). Many small countries having geographic narrowness always prefer to maintain balance of power in the region. For example, occupation of West Bank and Golan Heights by Israel are based on its notion of strategic depth vis-à-vis Iran and Iraq. It is clearly understood that from defence perspective, every state needs strategic depth against its potential enemy.

Ahmad is of the opinion that every state has a certain power base, small or big, to play a productive and influential role in the world politics (1992). The elements of geo-politics have deep impact in its foreign policy as these are best applied to assess the strategic significance of a country (p. xiii). In Pakistan case, the country has very little strategic depth from east to west. Since inception, Pakistan's geographic narrowness and adjacent of its heartlands to India's boundary have always preoccupied its defence planners. Pakistan needs territorial strategic depth to enhance its ability to absorb the initial strike of the enemy and inflict attrition on it through multi-layered defence approach (Maria Sultan, personal communication, October 25, 2012). Comparatively, India is geographically four times larger and seven times more populated country than Pakistan (Robinson, 2011). While Pakistan's occupancy with only 300 miles in width makes it vulnerable to a central attack which could result in splitting the country into two (Robinson, 2011, p. 63). Pakistan's metropolitan like Karachi, Hyderabad, Sukkur, Lahore, etc are located within the reach of the assault. Such strategic vulnerability of Pakistan is considered as an existential threat to the country's existence.

8.3.3 Geographical Vulnerability of Karachi Port

Pakistan's geographical vulnerability exposed in the war of 1971 when the Indian Navy captured its entire merchant fleet and a portion of naval fleet (Jan, 2013, p. A1). Since then, Pakistan's coastline has been so vulnerable that the Indian Navy can bottle up its naval ships at Qasim Naval Base adjoining to Karachi which is the country's sole operational naval base. The Indian's ability to blockade oil supply and

commerce of Pakistan at its international shipping port at Karachi has long been a security concern for the defence analysts in Pakistan (Jones, 2005, p. 38). In fact, blockade of Karachi port by the Indian Navy in the Indo-Pakistan War of 1971 resulted in the closure of its commerce and energy supply. In addition, India continued exploiting this geographical vulnerability of Pakistan in a number of occasions. Merely a decade ago, during the Kargil war of 1999 and also during eye-ball-to-eye-ball border confrontation-2001-02 between the two armies, Pakistan perceived similar blockade threats from India (Maria Sultan, personal communication, October 25, 2012). On the other hand, Pakistan with small Navy and existing geographical vulnerable naval positioning at Karachi cannot mount a significant counter-threat to the Indian. In addition, India's main international shipping ports like Mumbai which is located too far on its western coast. Similarly, Pakistan needs to follow Indians approach of locating its main shipping and naval facility away from the enemy's reach.

8.3.4 Indian Naval Expansion

The Indian naval expansion with a spending of about US $45 billion for the next 20 years on the development of new warships, destroyers and nuclear submarines is an effort on its part to emerge as a main sea power in the Arabian Sea/Indian Ocean. Interestingly, the Indian naval budget is even surpassed China's spending on its naval expansion which is almost US $25 for the same period is a matter of great concern for Pakistan (India's Military Buildup, 2011, p. 11). Since the end of the cold war, India initially planned to modernize its Navy on 25 years plan. The plan was to develop a

strong and effective military presence in the Indian Ocean to prevent extra-regional powers (Good, 2002, pp. 20-21). In the recent period, the Indian Navy has been expanded with the inclusion of Ballistic Missile Submarines, Nuclear (SSBNs) development of sea-based strategic missiles, quality of weapon sensors, force multipliers and networking of platforms (Mehta, 2007, p. v).

8.3.5 India's Pursuit of a Blue Water Navy

As a maritime strategic paradigm, "Blue Water" Navy is a transition of a "Brown Water" Navy. Brown water Navy refers to a naval force which has the ability to control or operate within one hundred nautical miles of the coastal areas while blue water Navy is taken in a wider sense of maritime strategy. This means safeguarding maritime interests, the development of marine economy and research on maritime science and environment (Good, 2002, p. 38). The Indian Navy is struggling to transform from a littoral force to a blue water largest naval force in the region. Since the post cold war, India has been improving its maritime status and has further stepped up to control the entire Indian Ocean region (Good, 2002, p. 20). In 2006, India revealed its maritime strategy to transform country's Navy from brown coastal defence to blue water Navy (From Brown water to Blue, 2006, p. A1). The strategy aims at expanding Indian Navy as a formidable blue water fleet to operate over 200 miles or 320 kilometers from coastline (Indian Navy tackling to the Blue Waters, 2003). In brief, the blue water status would uplift Indian Navy as a sea-power to target enemy with long range, deep water and oceanic maritime capability (Scott, 2008, p. 1). Long range military operative capability and deployment would be a

substantial threat to Pakistan's maritime interests in the region as India's naval expansion in the Indian Ocean basin would be able to eliminate its strategic depth in the Arabian Sea.

8.3.6 India's Expanding Maritime Ambitions

Indian policy makers and defence analysts claim India's strategic environment in the entire Indian Ocean basin, stretching from the eastern coast of Africa as the westernmost frontiers to the Strait of Hormuz in the Persian Gulf (Fair, 2007, p. 264). In addition, India's claim of strategic space encompasses to the east, the Strait of Malacca and South China Sea; to the north, Central Asia and to the south it extends to Antarctica (Fair, 2007, p. 264). Within this extended strategic outlook, India's top priority is to attain preeminent power within the Indian Ocean basin with the support of the United States and Australia (Fair, 2007, p. 264). India has already projected itself as sea-power of South Asia and seeks to emerge as a global power in due course (Perkovich, 2004, pp. 130-33). New Delhi believes that with its might and capability, it would be able to shape regional security arrangements to foster stability in the entire Indian Ocean basin and even beyond (Fair, 2007, p. 265). According to India's Defence Ministry Annual Report 2005-06 which states that India has made some significant progress in achieving a truly multi polar world order in which India has emerged as one of poles (Govt. of India, 2006, p. 2). India's rise as a great power will have far reaching impacts on Pakistan.

8.3.7 India's 'Look East' Policy

Consonant with India's expensive set of interests within the whole Indian Ocean basin, India is actively pursuing a 'Look East' policy which encompasses greater economic, military and strategic cooperation with the Middle Eastern and West Asian countries including Israel, Iran, Arab states, Afghanistan and Central Asian Republics (Fair, 2007, p. 265). To strengthen its strategic influence in Central Asia and Afghanistan, India has established two airbases in Tajikistan (Robinson, 2011, p. 59). Iran is a pivotal state for India to facilitate it with direct access to the oil and energy rich Central Asian states (Aaron, 2003, p. 30). Such close ties with Arab states may circumvent Pakistan's intimate ties with these states (Fair, 2007, p. 267).

8.3.8 Indian's Support for the Iranian Port and Naval Base Setup

New Delhi has initiated to enhance its sphere of influence throughout Southeast and Central Asia by heavily investing in the construction of the Iranian Chabahar port. The significant capital investment in Chabahar is aimed at countering Pakistan-China growing regional influence. India views that Chabahar free-trade zone would facilitate it with the ability to bypass Pakistan to seek access to Afghanistan and Central Asian states via Iran (Jorisch, 2013). To fulfill this plan, India has also invested in Afghanistan to construct Kandahar-Heart road linking with Iran. Through this route, India has planned to expand its trade and economic cooperation with entire Central Asia. Moreover, 600 miles railway track is also being planned to connect Afghanistan with Iran. This strategic approach of India could be understood in its context to counter Chinese competition in its backyard as both are determined to ensure their presence in the SLOC of Indian Ocean (p. A1).

Another move from Iran with support of India is to construct a new naval base on its coast of the Gulf of Oman at the location of Pasabandar which is the Iranian coastal border area located near Pakistan's Gwadar port (Iran to build naval base, 2013). According to Iranian Navy Commander, Rear Admiral Habibollah Sayyari, the move came in reaction to the handing over Gwadar port to the Chinese firm for operational control (p. A1). The Iranian naval base, situated in its far east coasts in the Gwatr Gulf about 30 km west of Pakistan's Gwadar port, would facilitate Iranian security of its Makran coast stretching from the Iranian port of Bandar Abbas to Pasabandar which is also known as Makran (Iran plans Navy base, 2013, p. A1). This would, according to Iranian policy makers, enable Iran to defend its maritime interests in the Arabian Sea and monitor the sea trafficking of the region (Haroon, 2013, p. A1).

8.3.9 Indo-US Strategic Nexus

The security environment has always depended on the nature of mutual relations between Pakistan and India. Military or strategic leverage of one over the other can lead to destabilize the entire region. The on-going Indo-US military and strategic nexus has severe implications for Pakistan to maintain balance of power which is favoring India. The strategic partnership between India and the United States is to expand cooperation on dual-use of high technology goods, civilian space and civil nuclear as well as missile defence (Kronstadt, 2006, pp. 6-7). Moreover, the US President Barak Hussain Obama in his visit to India also concluded a number of military and strategic agreements with his counter-part in New Delhi including the

provisions of C-17 and F35 aircrafts along with latest defence equipments (Shaukat, 2010, p, A1). Such security and strategic cooperation between these two countries would be a security concern for Pakistan as the country's deterrence capabilities against India would be deteriorated and balance of power would tilt towards India (Bughari, 2011, p. 2).

8.3.10 Indo-Israel Strategic Nexus

Growing India-Israel strategic and security nexus is a main concern for policy making circle in Pakistan. India is regarded single largest importer of defence equipments of Israel which overall accounts for 50 % of Tel Aviv's defence exports and 30 % of New Delhi's imports surpassing almost ten billion dollars bilateral defence trade for a period of ten years (Khattak, 2013, p. A1). The growing strategic cooperation between India and Israel has expanded to cover almost all fields of defence and security including research, space technology, anti-ballistic missile programme, intelligence sharing, training of forces, joint naval exercises and exchange of weapon technology. Israel is advanced in electronic warfare capabilities and its continuous support to India would have severe implications on Pakistan's warfare abilities. Israel's exported Phalcon-equipped AWACS is considered a great strategic asset for India against Pakistan. The AWACS facilitates Indian naval force with real time intelligence, surveillance and air superiority against Pakistan during wartime. During almost all wars between India and Pakistan, Israel extended its support to India against Pakistan and during Kargil war of 1999; it provided latest Unmanned Aerial Vehicles (UAVs) to India to counter Pakistan ((Khattak, 2013). In this context,

emergence of Sino-Pakistan strategic and naval cooperation becomes inevitable to counter Indo-Israel military nexus.

8.4 Geo-Strategic Imperatives of Gwadar port for Pakistan

Situated on the Makran coast, Gwadar deep sea water port is a strategic maritime outpost. Being the third largest port of the world, Gwadar port is located at the doorway of the Persian Gulf just 180 nautical miles away from the Strait of Hormuz (Mazhar, Javaid & Goraya, 2012, p. 117). It is located about 400 km at a distance to the Strait of Hormuz which is a strategic supply line of the world through which almost 16-17 million barrels of oil is routed (Sakhuja, 2013, p. 9). 20-30 tankers pass through this chokepoint every day and during peak hours, one tanker is followed by another after every six minutes (p. 9). From the strategic and military perspectives, Gwadar port is a strategic listening post to keep an eye on the eastern enemy naval activities in the region. Moreover, Gwadar port's close proximity with the Persian Gulf and Strait of Hormuz will enable Pakistan to monitor the Sea Lines of Communications.

After exposure of geographical vulnerability in 1965 and then 1971 war realized the country's defence planners to develop an additional port with naval base facility on the Makran Coast with a far distance from Karachi due to defence point of view (Haider, 2013, p. A1). But due to prolong negligence to this factor, the Kargil War-1998 also exposed the vulnerability of the Karachi port, being the main shipping port of the country. In 2002, Gen Pervez Musharaf, the then President and Chief Executive

of the country who practically experienced the susceptibility of Karachi port during the Kargil war launched Gwadar port project along with other associated projects (Haider, 2013, p. A1).

Pakistan's geo-strategic position and geo-political fixation are quite significant and have acquired immense importance in the realm of national security. Gwadar port's proximity to the Persian Gulf, Central Asia, Eurasia and the world main energy and trade chokepoints all contribute to highlight its unique importance in the region. Its geo-strategic location in the Arabian Sea could facilitate electronic surveillance to monitor naval activities in the entire Arabian Sea and Indian Ocean. In fact, Gwadar port lies diametrically within the domain of Mackinder's Rimland concept which was used during the Great Game. During the time, Gwadar remained military powers main focus in the Indian Ocean. In history, warm waters of Gwadar attracted Greeks, Arabs, Portuguees, Persians, Russians and the British (Global Security, 2013).

The construction of Gwadar port along with its related projects would benefit Pakistan on the following areas vis-à-vis India and also to secure its maritime economic interests in the region.

8.4.1 Gwadar port Provides Strategic Depth

Selection of Gwadar location for the world third largest port was actually based on the geographical reasons as it is far too susceptible to maritime attacks from the Indian Navy. The move is similar to the shift made by government of Pakistan to relocate its capital from Karachi to custom-built Islamabad on the similar reason of geographical vulnerability as the old city was within the reach of the Indian army as

well as Navy (The best alternative, 2014, p. A1). Geo-strategic location of Gwadar port will help increase the strategic depth for Pakistan. Being situated 460 km away from India will considerably reduce the country's vulnerability (Malik, 2012, p. 58). The port would enable Pakistan to adopt nuclear 'assure retaliation' postures which is mostly referred as 'credible minimum deterrence' which depend on a small but secure nuclear force that guarantees a retaliatory strike capability against adversary (Robinson, 2011, p. 66). This strategic depth would facilitate Pakistan's Navy to locate near to the port vicinity for effective deployment of assault against the enemy during war (Haider, 2013, p. A1).

Zia Haider, US based defence analyst writes that past naval blockade of Karachi port by India had severe economic consequences for Pakistan (Ramachandran, 2005). However, the geo-strategic location of Gwadar port, being 725 km away to the west of Karachi port, makes it further away from India and this provides it with crucial strategic depth vis-à-vis India along its coastline (p. A1). The port distance from enemy lines makes it a safe and strategically significant place to absorb the Indian air strikes. Recently, the Inter Services Public Relations (ISPR), an institute of Pakistan's armed forces, has revealed that Naval Strategic Force Command will perform a key role to serve as the custodian of the nation's second-strike capability from a safer location (Pakistan cites Second-Strike, 2012, p. A1). This would help Pakistan fire back at the enemy with modified Hatf 7 nuclear-capable cruise missiles following elimination of its land-based nuclear arsenals, said by Mansoor Ahmed, A nuclear weapons analyst. It is pertinent to mention that second strike capability could only be

achieved if Strategic Naval Force is stationed away from Karachi port, which is vulnerable to Indian Navy, to Gwadar Naval base. The vulnerability of Karachi port during 1971 and then during Kargil war made Pakistan realized that an alternative naval base away from Indian borders is indispensable for the very existence of the country.

8.4.2 Military Imperatives of Gwadar port

Every maritime nation needs a military force at sea for protection of its strategic and maritime interests. Addition to the security of seaborne trade and resources, military power across the globe serves maritime and strategic interests of the country to ensure its security against any imminent threat stemming from the sea (Nawaz). The interrelation between economic and military elements of maritime power makes them interdependent (2004). Immense economic benefits from the sea motivate maritime nations to develop military power at sea to accrue financial benefits as well as develop impregnable maritime defence (p. 63). The development of maritime power at sea for the protection of strategic and economic interests has become more important and indispensable than it was in the past. This development is due to the enormous growth of seaborne trade and its significant contributing role in the economic development (Nawaz, 2004). The military power at sea also facilitates to promote the country's maritime interests (p. 64).

Gwadar port intends to transform Pakistan's Navy into a power that can stand at par with regional navies with strong footing. The port would facilitate Chinese with a

strategic foothold in the Arabian Sea and the Indian Ocean (Military Gwadar, 2013). In 2007, the government of Pakistan approved a plan to develop a new shipyard at Gwadar on a fast track basis (Kiani, 2007). The shipyard initially decided to establish at Gwadar East Bay on an area of approximately 500 acres (p. A1). The shipyard would help ship building of up to Very Large Crude Carrier (VLCC) and Ultra Large Crude Carrier (ULCC) size.

8.4.3 Countering the Indo-US-Israel Nexus

Both from China and Pakistan perceive, growing Indo-US-Israel security and strategic cooperation is detrimental for peace and stability in the region and can destabilize the entire strategic balance in Asia which has far reaching impacts on the world politics (p. 2). Such Security, military and Strategic cooperation can only be counterbalanced with the development of similar strategic and naval cooperation between Pakistan-China. Beijing too wants to form strong military, strategic and naval ties with Pakistan to deter growing US-India collaboration which Chinese consider a move against to keep China at bay (Bukhari, 2011).

8.5. China's Geo-Strategic and Geo-Economic Interests

China's port policy is mainly based on the security of energy and economic interests. According to US Energy Information Administration statistics (EIA), China's oil import will be almost double by 2020 with 15 million mbd and by 2035 Beijing will be importing between 70 to 80 % of its crude oil from the Persian Gulf. As per Chinese maritime strategy, chances of war always exist and to tackle such situation

demand preparedness, modernization and a strategic orientation that would neutralize friction (Cheng-Kun, 2008, p. 49). Active defence would be required from the Chinese to develop overseas bases to gain strategic depth in order enhance strike capabilities and launch assault from the strategic location. This military framework is under the broader spectrum of 'Access Denial and Control strategy' which is at the core of Chinese military thought (Cheng-Kun, 2008, pp. 51-55).

Two events forced China to shape its military and strategic strategy for future. The foremost event was the Gulf War 1991, which forced China to adopt a strategy of strategic preemption (Wilson and Xue, 2006, p. 237). The subsequent event was the political dispute of Taiwan of 1995 which brought China and US at dagger drawn with each other. The event also compelled the Americans to deploy two carrier groups in the Strait which threatened the sovereignty of China in the region. China's geo-strategic and geo-economic interests are determined by the proceeding points:

8.5.1 Protection of Sea Lines of Communication

Protection of SLOC is of great importance to China for its sustainable economic growth and stability as 90 % of Chinese trade is transported by sea and 80 % crude oil imports of China routed through the Malacca Strait. As a strategic approach, securing SLOC is the top most priority of China's foreign policy (Surendran, 2013, p. 13). The presence of Chinese Navy is increasingly becoming inevitable in the Indian Ocean to secure its energy lines of supply as China's 80 % crude oil and gas supplies transit through the area. In a wider sense, 80 % of crude oil and gas imports transit the

Indian Ocean. For Chinese, the steady flow of imported crude oil and other raw material are not only indispensible to sustain economic growth but also important for the survival and longevity of the Chinese Communist Party (Robinson, 2011). China's policy of offshore defence is actually a distant ocean defence to safeguard Chinese interests in the Indian Ocean (p. 66). According to Booz Allen Hamilton, a US defence contractor that china's strategic relations beside the sea lanes from the Persian Gulf to the South China Sea is a defensive as well as offensive placement to protect strategic interests of China (Blazevic, 2009, p. 63).

Today China's crude oil imports from the Middle East have reached to 60 % and dependence will further increase to about 70-75 % by 2015. Chinese energy supplies from the Middle East embark on a 10,000 km journey to China on SLOCS while travelling the world's oceans and seas including the Arabian Gulf, Red Sea, the Arabian Sea, Indian Ocean and South China Sea (Storey, 2008, pp. 118-119). Map 8.2 indicates main oil and trade routes in the India Ocean Region.

Map 8.2: Main Oil and Trade routes in the Arabian Sea and Indian Ocean.



Source: (India and China Face-Off, 2013, p. A1).

Before strings of pearl strategy, Chinese and Western analysts were unanimous in their conclusion that China was incapable of protecting these long energy supply lines (p. 119). Zhang Wenmu stated that China was totally unable to protect its overseas oil imports routes (2006, p. 20). Whereas Liu Jiangping stated that for the protection of its sea routes, China must strengthen its Navy with modern technology to defend SLOCs which are at very great risk of being cut at any time (Storey, 2008, pp. 119-120).

8.5.2 China's Maritime Vulnerability and Security

China's rapid economic growth has stirred world trade and the global shipping industry. However, such economic growth can only be sustained if country continues to use its maritime domain. Today, China's continued economic development, which is inevitable for regime survival and great power aspirations, has largely become dependent on unimpeded access to the sea (Storey). Dependencies at large scale

creates vulnerabilities and over the last decade China's political leadership and defence analysts have fully perceived these maritime vulnerabilities (2008). China's threat perception as briefly discussed by Ian Storey can be broken down into three inter-related concerns:

8.5.2.1. China's policy planners and strategic thinkers recognize close association between economic development and the uninterrupted flow of natural resources (energy, raw material and other commodities) into the country for sustainable economic growth. As a matter of fact, before the construction of Gwadar port, Chinese were incapable of protecting the country's SLOC, especially in the Middle East and the Indian Ocean. It is feared that during the time of crisis these vital arteries which are lifelines for China's economic development could be constrained by its enemies (p. 117).

8.5.2.2. Though China owns the largest fleet of merchant ships and about 90 % of its energy supply is transported in foreign owned vessels. The strategic vulnerability of China can be exposed during an international crisis or war as its crude oil imports from Middle East and Africa through foreign owned ship can also be exploited by its enemies or the foreign ship owners would refuse to send their ships into a war zone or conflict area (p. 123).

8.5.2.3. Chinese planners are also cognizant of the potential non-traditional security threats. Such threats include piracy, maritime terrorism to disrupt international shipping lanes and chokepoints and arms smuggling are direct threats to its energy

supply. China's energy security of the shipping lanes and maritime interests mainly revolve around the above three security perspectives. These factors have led China to develop a long term strategy which is known as strings of pearls to secure its energy supply (p. 117).

According to Liu Xuecheng, a senior fellow at the China Institute for International Relations has explained that vulnerability concerns have actually helped shape Chinese growing sense of energy insecurity especially in the area of the Strait of Hormuz and the Strait of Malacca (2006). Chinese vulnerability is actually based on the facts that all these vital chokepoints are controlled by the United States and its allies (p. 2). Zhang Wenmu, a Professor at the Center for Strategic Studies in Beijing, is of the opinion that a stable flow of energy passing through these Straits and shipping lanes is essential for China's future economic growth and to secure its future, China must protect its SLOCs with a powerful Navy and military presence near these chokepoints (2006, pp. 18-21).

8.6 Geo-Strategic Imperatives of Gwadar port for China

Gwadar port has been listed as an important constituent of the Standard Operating Procedure (SOP) in the Indian Ocean (Hayward, 2010, p. 102). Construction of Gwadar naval base would facilitate China's positioning in the Arabian Sea and the Indian Ocean to have one carrier group, nuclear powered attach submarines along the sea lines patrol to cooperate with surface groups, ballistic missile nuclear submarine on deterrent patrol, long range maritime strike aircrafts to operate from Gwadar and

one amphibious brigade standby with transports to meet any possible war like situation to defend its shipping lines in the region (Shankar, 2013, p. 12). Another regiment of ASAT missile along with cyber teams to wage information ware fare that will help paralyzes enemy's hostile operations. The rationale behind such robust maritime strategy of China is to acquire a strategic position in the Indian Ocean and near the Persian Gulf to control oceanic spaces. China has, therefore, developed forces and alliances along with its consistent programmes of shipbuilding and naval expansion manifest to materialize its strategy of access denial to prevent outside interference within its sphere of interests.

Chinese operational control of Gwadar port would give it a foothold in one of the key strategic regions of the world and could unsettle officials both in Washington and New Delhi who have been much concerned about Beijing's growing regional influence (China poised to control, 2013, p. A1). According to some western defence analysts, Gwadar port is the western most link in the China's grand strategic strategy 'string of pearls' a line of ports from China to the Gulf that could facilitate the Chinese Navy to widen its strategic scope of influence in the Indian Ocean which would discomfort both the US and India (China poised to control, 2013, p. A1). The port will provide China a listening post to monitor the Indian naval activities in the Indian Ocean. Following geo-economic and strategic benefits China can accrue from Gwadar port:

8.6.1 Geo-Economic Imperatives of Gwadar port for China

Gwadar port provides China with strategic, economic and military benefits. Sino-Pakistan 2500 km long gas and oil pipeline from Gwadar port to Xinjiang province would facilitate China's crude oil supply from the Persian Gulf via Gwadar. Moreover, China can easily ship its crude oil and natural gas from Iran through Iran-Pakistan gas pipeline which was earlier known as Iran-Pakistan-India gas pipeline which would be connected with Pak-China pipeline. For detail economic impact see Chapter 7. After handling over the port management operation to Chinese port authority, China would also re-start the project of Gwadar refinery that was suspended in 2009 due to security situation of the Balochistan province.

China lakes a hot waters port to be operational throughout the year. The Chinese Shangai port is about 16,000 km away from its Industrial zones and sea transportation takes additional two to three months to reach China's coast Ghazali (Khokhar, 2013, p. A1). This huge distance of travelling costs China heavily in the form of taxes, duties and consumes a lot of time. Whereas, Gwadar port is located just at a distance of 2,500 km from the Chinese western province and the port is also a hot water port to be functional the whole year (India alarmed as Chinese built Gwadar, 2009, p. A1). The port is capable of handling cargo ships up to 100,000 tonnage and oil Tanker up to 200,000 tonnage capacity from the proximate Persian Gulf (Sakhuja, 2002). If the Strait of Malacca is blocked by US during any international crisis, Gwadar in that case could emerge as an alternate artery to facilitate Chinese trade in the Indian Ocean. As a matter of fact, China's interest and involvement in Gwadar port is based

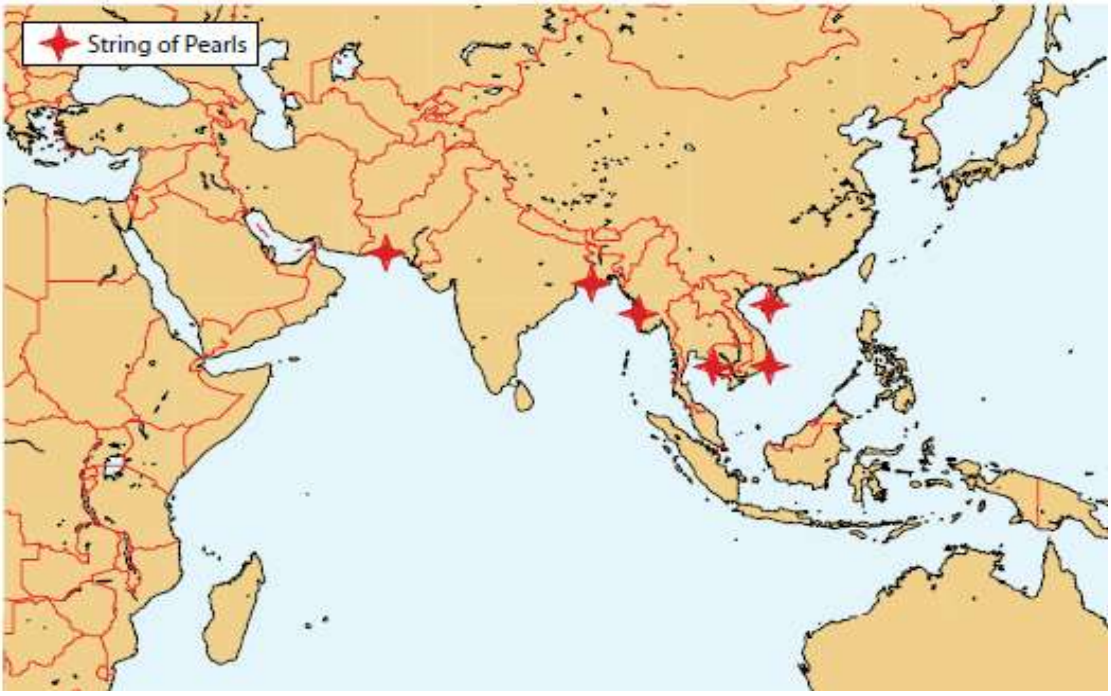
on its strategic location to serve as a regional conduit for access to energy, raw material and world markets (p. A1).

8.6.2 Military Imperatives of Gwadar port for China

The Gwadar port with all its geo-strategic characteristics, facilities Chinese blue water Navy with strategic depth to reach and control capabilities that would ensure security of its energy and trade supply lines originate from Persian Gulf and Africa. The Chinese strategic policy to safeguard Arabian Sea and Indian Ocean will give a halt to the growing Indian naval expansion. Pak-China strategic, military and commercial engagement would bring them at par with the with US-India strategic and naval nexus as strong contenders to reduce American influence in the region.

Access to Gwadar Naval Base appears as a vital avenue for China to improve its sea lane security. China growing relations with a view to establish a naval presence along its energy supply SLOCs cannot be ruled out. The string of pearls strategy is designed to seek access to naval facilities or commercial ports in Pakistan, Bangladesh, Burma, Sri Lanka and Cambodia. All these countries, especially Pakistan, occupy strategically very important positions along China's energy SLOCs (Gertzm 2005, p. A1). According to Booz Allen Hamilton, US defence consultant outlines in a report of US Department of Defence that Beijing has been cultivating strategic relations with Pakistan, Burma and Cambodia and has been heavily involved in financing naval facilities in Pakistan (Storey, 2008, p. 122). Map 8.3 shows Gwadar as a main naval base as a part of China's string of pearls strategy.

Map 8.3: Naval Bases in the Indian Ocean and Gwadar port being the main base



(Storey, 2008, p. 122).

8.7 Sino-Pakistan Joint Strategic Cooperation and Mutual Benefits

Maritime cooperation is one of the most significant areas of collaboration between Pakistan and China. On the other hand, maritime cooperation between India, United States and Australia, especially after 9/11, has substantially been increased (Borah, 2011, p. 2). Jonathan T. Good in his research has explained the Indian Ocean as one of the third largest world's ocean (2002). The Indian Ocean is significant as an international trade lifeline and a strategic waterway for Sino-Pakistan's trade and energy supply (p. 20).

China over the period has appeared as the main military spender in the Asia-Pacific and fourth largest defence spending country in the world (Robinson, 2011). Chinese naval force is recognized the third largest in the world after US and Russia and also

considered much better to the Indian naval force (p. 66). Though officially China has not shown any consent for military involvement in the port, yet its interests in the supply of commerce and crude oil from the Persian Gulf to its western province via Gwadar port could result in a joint naval or military collaboration for the protection of vital SLOC in the Indian Ocean. Moreover, the Pak-China naval cooperation and joint patrolling could also considerably contain US-Indian influence in the Indian Ocean which Pakistan alone cannot afford to do. The naval base's establishment at the port's vicinity is indispensable for Pakistan to watch the Indian naval expansionist activities and would help China to monitor the US 5th Naval Fleet near the Persian Gulf region (Malik, 2012, p. 58).

The coastal defence of a country encompasses warding off impeding invasions of the enemy troops, ensuring the safety of the country's industrial assets, protection of coastal defence artillery and naval bases. China's Navy has gained some remarkable achievements in its naval modernization with scientific and technological capabilities to guard its coastal frontiers and ability to attach enemy's coastlines while destroying its coastal defence lines (Good, 2002, p. 35). China from the very beginning developed its defence industry up to the mark and produced equipments of high quality in 1960s and onward (p. 36). The China's active involvement in the Indian Ocean would be a great assistance for Pakistan to contain expansionist motives of the Indian Navy in the Arabian Sea as well as it would help modernize its defence industries with the state-of-the-art weapons.

Sino-Pakistan strategic cooperation could be analyzed in the context of Indo-US growing strategic and military partnership which both Pakistan and China observe as a threat perception. Gwadar strategic importance will help enhance Sino-Pakistan naval nexus to deal with new emerging military trends emanating from India's aspiration to become blue water Navy in the Indian Ocean and the US presence in the energy chokepoints for making maritime communication safer for commercial shipping in the Persian Gulf (Chaliand, 1994, p. 835). Apart from funding the port and naval facilities, China's investment for new airport and super highway to connect Gwadar with Karachi port are regarded by the India and US to facilitate mercantile and defence trade. The geo-strategic importance of Gwadar port with Chinese presence has been referred by the United States as the "Chinese Gibraltar" (Hayward, 2010, p. 103).

Box 8.1. Case Study: The Impact of Trade Corridor of WBC

The Walvis Bay Corridor (WBC), a public-private partnership, is a chain of corridors of the Trans Kalahari, the Trans Caprivi, the Trans Cunene and the Trans Oranje connecting with the port of Walvis Bay was established in 2000 to promote and support trade and economic activities in the region. The corridor traverses Namibia, Botswana, Zambia, Angola, Zimbabwe, South Africa and the Democratic Republic of Congo. The trade corridor with its network of roads, railways, shipping services and other infrastructure has a wide catchment area of economic activities. Within a short span of time, the corridor has made substantial progress in the development of infrastructure, institutional setup, trade growth and other important areas. Moreover, shipping connections to WBC has also enhanced and stimulated a more completive tariff mechanism for the regional trade. The Walvis Bay Trade Corridor has also been connected with international destinations via direct shipping routes to and from North America, the Far East, Europe, the Middle East and South America. This is obvious from the fact that public-private partnership can serve as a trade bridge and address issues to uplift economic development in the region as happened in WBC.

Source: (Mulenga, 2013, p. 6).

8.8 Conclusion

Today, maritime interests, coastal defence, security of SLOCs and supply chain dynamics including sea ports, ships and chokepoints have become paramount priority of every littoral state's foreign policy. Unlike other regions of the world, the Indian Ocean has significant economic imperatives parallel with diverse challenges and threat perception. Emergence of resource rich Central Asian States, regional dynamics after 9/11 incident, deteriorating security situation in the Persian Gulf, Chinese emerging economy, proximity of the port with the Strait of Hormuz and natural deep sea feature of the port all make Gwadar port a pivotal place in the world. The location and deep sea natural elements of Gwadar port have also been recognized by the ADB to act as an alternate port to the Persian Gulf ports for handling large oil tankers and mother ships in due course.

Gwadar port take over by the Chinese government company would inject new enthusiasm into operational site of the port to achieve national defence objectives both by China and Pakistan. The management of the port by Chinese would enable China's greater presence and influence in the Indian Ocean to monitor the activities near the chokepoint of Hormuz. The potential of Gwadar port on the strategic, economic and military perspective would bring Sino-Pakistan in the active maritime cooperation which includes all activities related to shipping, freedom of navigation, the enforcement of international law of sea and coastal defence. It also encompasses resource-based interests such as exploitation of offshore resources within the

Exclusive Economic Zone (EEZ). As the port is considered the third largest in the world, it can easily accommodate Chinese submarines and defender ships to ensure security of the Arabian Sea and safety of its vital energy supply lines which would also help Pakistan strengthen against India's outmatched naval expansion. In short, Gwadar port is considered by the government as Pakistan's alternate strategic, economic and military base to the already saturated twin ports in Karachi. The port is also planned to attract the lucrative Central Asian trade and act as a strong competitor to the Iran's Chabahar port.

CHAPTER -9

CONCLUSION AND RECOMMENDATIONS

9.1 Introduction

This concluding chapter, which is divided into four sections, intends to overview the research and its findings. The first section analyses the purpose and value of the research; the second section summarizes in-depth key findings of the research in the light of four research questions set forth in the first chapter and analyzes how they have been met; the third section offers policy recommendations to the government of Pakistan to evolve a well-thought out strategy and a multi-faceted approach to allow Gwadar port to achieve its maximum potential and the fourth section underlines the research implication and contributions followed by evaluation of the research parameters and suggestions for further research.

9.2 Purpose and Value of the Research

This thesis was set out to explore the strategic and economic prospects of Gwadar port as a trade and energy corridor for Pakistan by providing transit and trans-shipment facilities to Central Asia, Afghanistan and China. An attempt has also been made to ascertain whether geo-strategic location of Gwadar port would provide Pakistan with military strategic depth against the Indian aggression to protect the country's maritime and commercial activities at sea as geographical vulnerability of Karachi port has always been exploited by the Indian Naval force and still remains a preoccupation of the policy making circle in Islamabad. In today's era of economic globalization in which global trade environment with intense international competition for energy and other resources among states on rise, the emergence of Gwadar Deep Sea Port is a promising development to stimulate regional integration in economic, trade and financial activities among South Asia, Central Asia, Middle East, Afghanistan, China and beyond and bind them with vested interests by establishing interconnected and interdependent system. The study has sought to answer four main research questions mentioned in the introduction chapter of the dissertation.

9.3 Empirical Findings

The main empirical findings are chapter specific. This section synthesizes the research findings to evaluate how the research questions and objectives have been addressed in the study.

9.3.1. To ascertain the potential of Gwadar port as a trade and energy corridor to become regional commercial hub, following research findings substantiate the arguments:

9.3.1.1. Geo-Strategic Port

The port, situated on its southwestern coast, emerges as a place of great strategic value, enhancing Pakistan's importance in the whole region, extending from the Persian Gulf through the Indian Ocean to Southeast Asia and the Far East. Its location at the mouth of the Persian Gulf and at the opposite end of the strategic choke points of the Strait of Hormuz and the Gulf of Oman makes it an ideal hub port. More importantly, it is strategically surrounded by three increasingly important regions of the world: the oil-rich Middle East, heavily populated South Asia and resource-rich Central Asia. Its development could favorably influence the geo-strategic environment of the region and have an overall beneficial impact on Pakistan. The port will transform Pakistan into a regional commercial hub and vested interests of the regional countries will further drive regional development forward to achieve a sustain economic growth. Gwadar port can fully capitalize its geostrategic location to facilitate Central Asia to supply its trade and energy to the world market.

9.3.1.2. Gwadar at the Confluence of Energy Corridors

In the contemporary world, every state is largely dependent on oil and gas to sustain its economic growth and military power. Pakistan's strategic potential remains high as the country sits at the crossroads of the energy routes and the Geo-strategic position of Gwadar port will enable it to act as a meeting point for energy importers and exporters in the region. A north-south gas pipeline taking Central Asian energy via Pakistani port to global markets and west-east pipelines taking Iranian or Qatari gas towards South Asia would meet each other in the Pakistani territory of Gwadar. The natural flow direction of

the Gwadar port will not only attract Central Asian states to reach the world market for the export of their energy resources but will also facilitate China to import the energy available at its doorstep. The energy resources of Central Asia could find their new storage destination at Gwadar port where their energy would be converted into Liquefied Natural Gas (LNG) before it is shipped to the European, Pacific and other world markets where countries are facing acute energy shortage.

9.3.1.3. Regional and Continental Trade and Energy Expansion

With developed infrastructure, Gwadar port will act as a commercial hub for convergence and divergence of transit trade and energy flow from Afghanistan, Central Asia and China and facilitate regional transshipment cargo and domestic freight. The availability of improved and modern transportation of road network, railway lines and deep sea port will not only connect countries of the surrounding regions but it will also help flourish the quantum of trade and business activities in different dimension in the region.

The corridor is located in the main parameters of commerce to give rise to transnational trade and economic activities. Trade activities in the region are expected to be re-generated. A road network connecting Gwadar port with Iran, Afghanistan, Central Asia, China and within the country will enhance mobility with the country and facilitate the movement of goods from these states to the countries of the Persian Gulf, Middle East, Africa and beyond through Gwadar. This trade corridor from Gwadar port up to Central Asia will help restore Old Silk Road to stimulate regional and cross-continental trade. Moreover, the corridor will also contribute in the expansion of economic activities and will play a pivotal role in fostering peace and stability in the region. Revamping regional

trade corridor linking Central Asia, Afghanistan, China and the Middle East will uplift economic development of all those countries where the corridor traverses. Pakistan stands to benefit from the following regional countries' flow of energy and trade:

9.3.1.4. Trade and Energy Prospects with CARs

The Central Asian states have close geographical proximity and cultural affinity with Pakistani people over long span of time, in fact even before the partition of sub-continent. Gwadar port with its road and rail network connecting Turkmenistan, Uzbekistan and Tajikistan lies at a shortest distance than the Ukrainian Odessa port in Black Sea which is the only nearest and shortest sea route to these countries. The government's oil refinery plant and a liquid gas plant at Gwadar port would facilitate these energy and resource rich countries to export their energy to the world market. TAPI and IP gas pipelines would traverse through Gwadar port where the energy will also be stored and processed for LNG to diversify its export.

9.3.1.4.1. Trade and Energy Prospects with Persian Gulf

The Persian Gulf will find Gwadar port as a trade and energy conduit to seek access to China, Central Asia and Afghanistan as these are huge potential market for the Persian Gulf petro chemical products. In the long run, Gwadar port, being a main conduit, would bring these compatible regions into the trajectory of cross-regional integration to achieve broader trade and economic growth by trading compatible products.

9.3.1.4.2. Trade and Energy Prospects with China

Through the establishment of the Gwadar-Karakoram-Kashgar, China finds Gwadar port a shortest, cost-effective and viable route to import its energy from the Persian Gulf and export its machinery and other products to the Middle Eastern states. China's Xinjiang province is located almost 5,000 km away from the east coast of China, whereas distance of Xinjiang from Gwadar port is just 2,500 km. In addition to this, Gwadar port will also be an efficient and less time-consuming trade and energy corridor for China as its trade from the Persian Gulf to east coast takes almost a month to offload its shipment and costs it heavily. The corridor will also connect China with the Iranian, Turkmen and Qatari proposed gas pipelines to mitigate its emerging energy requirements. The corridor could also open up another viable option for Pakistan to seek access to Central Asia's vast energy resources through China. China's recent energy agreements with Central Asian Republics of Kyrgyzstan and Tajikistan for the provision of gas and energy which is known as 'Line D' would facilitate Beijing with a new energy route from Turkmenistan via Uzbekistan, Tajikistan and Kyrgyzstan to its Xinjiang province (Lelyveld, 2014). The existence of Gwadar-Kashgar Energy Corridor would definitely provide Pakistan with an opportunity to take full advantage of such facility to bypass troubled Afghanistan. If deteriorating security situation continues to prevail in Afghanistan, this corridor could be considered as an alternate route to explore long awaited trade and energy potential of Central Asia.

9.3.1.4.3. Trade and Energy Prospects with Afghanistan

Over centuries, Afghanistan's trade has been traversing Pakistan's territory before it reaches to the world market. Being a landlocked (more accurately double landlocked), it

largely depends on Pakistan for its seaborne trade. The construction of Gwadar port along with mega infrastructure development, Afghanistan finds it a main trade conduit to transit its trade. Trade from Gwadar port to Central Asia via Afghanistan would also facilitate Afghan products for exports to the regional and world markets. Moreover, Afghanistan has been a main passage to seek access to Central Asia in past. If TAPI gas pipeline is materialized, Kabul will be earning almost US $160 million as transit fee per annum to support its economy.

9.3.1.4.4. Trade and Energy Prospects within Pakistan

Pakistan's port facilities, restored and developed roads, huge textile industry, along with modern infrastructure, make it potential country to contribute substantially to the continental and regional-wide trade network. Gwadar port was visualized to attract transit and trans-shipment trade from Afghanistan, Central Asian Republics and China while twin ports in Karachi would be maintained to cater inland shipments. Being a deep water port located at the mouth of the Persian Gulf, Gwadar can provide viable, cost-effective and efficient transit facilities to the regional countries. Moreover, the import of LNG from Gwadar port would lessen energy shortage in the country as the port with its deep water capacity could easily anchor and dock large oil tankers.

9.3.2. The geographic location and the geopolitical environment in the region, Pakistan is left with no option but to depend heavily on the sea for its survival through economic development. The country's 960- kilometer long coastline

stretching to 200 nautical miles of the Exclusive Economic Zone (EEZ) becomes the lifeline and bedrock of country's national economy as 95 % of its trade and 100 % of its oil imports are routed through sea (Hali, 2012). Today, approximately 95 % of a country's trade is done through the sea lane which is estimated to be 35 to 40 % of its Gross Domestic Product (GDP). Empirical research shows that trade and growth of a country's economy go side by side and largely contribute on the income of a nation. In the twenty-first century, trade through the sea is considered one of the main components of globalization. Pakistan's GDP over the last few decades has considerably increased and its dependence on sea trade equally augmented to about 95 %. In this context, proceeding research results substantiate to answer the second research question raised in the study convincingly:

9.3.2.1. Generation of Transit and Transshipment Revenue

Having considered the geo-economic imperative of the regional political dynamics, policy making circle in Pakistan considers Gwadar port to have the most advantageous location in the region to attract transit trade of the Central Asian Republics (CARs) the trans-shipment trade of the surrounding regions, as well. The port will also enable the transfer of Central Asia's vast energy resources to world markets earning Pakistan significant profits in transit fees. China's flow of goods and energy through Gwadar-

Karakoram-Kashgar corridor will generate transit revenue for Pakistan.

9.3.2.2. Generation of Employment Opportunities

The development work of Gwadar port and related projects have already created tens of thousands of jobs for different human resource positions. The port's operation will attract businesses from region and beyond which will create employment opportunities for the entire province that will be sufficient to keep sustainable economic growth in the province for centuries. This sector will also help spur stagnant economic growth of the province in particular and of country in general.

9.3.2.3. Industrial Development and Creation of Economic Opportunities

It is a natural phenomenon in the world that availability of infrastructure further spurs the development of industrialization in the area. The Gwadar port would act as a catalyst for the development of an industrial zone with privately owned warehouses, food processing and preservation facilities, private cargo handling equipment, truck yards and corporate infrastructure. The Development of a Special Industrial Development Zone (SIDZ) over 4,000 hectares of area on the northern site of Gwadar would help and facilitate in setting up various industries in the vicinity of the port. The proposed Gwadar Industrial Estate (GIE) would also be created with estimated 2,000 industrial units with self-generated electricity. The GIE would employ about 30,000 workers and 3 million jobs would also be created. The country would earn foreign exchange with export-oriented production.

9.3.2.4. Development of Balochistan

Before Gwadar port mega project, the Balochistan province had no history of economic development. Gwadar is perhaps the first infrastructure and technological development of the province in centuries. By making Gwadar the pivot of regional trade, Pakistan will also attract considerable investment into its most underdeveloped province, Baluchistan. These funds will allow for the construction of roads and rails linking the coastal region to the rest of Pakistan, Iran, China and Afghanistan; will cultivate the region's vast and unexplored natural resources and theoretically will allow for the socio-economic uplift of the country through various development projects. Moreover, the province claims vast deposits of gold, copper, coal, lead, marble and other precious minerals which could easily be exported to the global markets and will play a substantial role in the economic uplift of the country.

9.3.2.5. Economic Prospects of the Gwadar port for Surrounding Regions

Gwadar port would be a catalyst for generating economic and commerce activities in the surrounding regions and would prove to be effective for bringing prosperity and political stability in the entire region. Following research findings about the economic impacts of Gwadar port are listed below:

9.3.2.5.1. Impact on Regional GDP Growth

The impact of trade corridor on the regional GDP will also be very significant as combined GDP of the participating regional countries will grow by 5 % per annum. Regional benefits are substantial against estimated trade corridor cost which is about US

$ 5 billion for the whole region. As these corridors will pass through poor and underdeveloped areas which would help spur sustainable economic development in these regions which in return increase per capita income of the associated regional communities.

9.3.2.5.2. Regional Employment Opportunities

The corridor will result in the expansion of regional trade which in return will provide jobs to the people of the regions. As road construction will pass through different parts of the region, including rural areas which are normally poor and backward, creation of jobs for adjacent communities would help increase their living standards. According to the estimates, trade corridor will generate 1.8 million jobs on full-time employment in the region. Moreover, during the time of trade corridor construction, 12 million persons will be engaged on temporary employment while 15 million persons will get permanent employment for reconstruction, maintenance and infrastructure development. All this support the economy of Pakistan.

9.3.2.5.3. Regional Freight Growth

The landlocked geographic character of Central Asia attracts other regional countries to develop new ports to cater the emerging transit requirements of the region. The development of 52 trade routes linking Gwadar port can play a key role to facilitate trade of Economic Cooperation Organization (ECO) and according to ECO study, 40 % of total transit will be channeled in this direction (Aziz, 2005, pp. 38-50). The construction of road corridor would enhance two-way freight up to 4.594 million tons for Pak-Afghan on

spin boldak and Torkham area while freight between Uzbekistan-Afghanistan and Turkmenistan-Afghanistan would increase up to 923,000 tons and 740,000 tons respectively (p. 44).

9.3.2.5.4. Regional Revenue Generation

Expansion in regional trade will generate governmental revenues that will be collected by respective countries as transit and duties fees levied on road, rail and electric line usage. Revenue on the regional level, based on current tariffs and transit fees, will increase which will further help develop infrastructure on different parts of the region. The revenue will largely support to the regional economies, especially countries like Afghanistan, Central Asia and Pakistan where the governments could not deliver adequate services of health care, education and social welfare due to budget constraint.

9.3.3. To determine Gwadar as a national gateway hub port for Pakistan and the region to compete all regional ports, below research findings authenticate the arguments:

9.3.3.1. Natural Deep Water Port

Gwadar port is a natural strategic warm-water deep sea port. The 14.5 meter depth of the port will accommodate and allow heavily loaded mother ships like Panamax Ship for protected docking and anchoring to load and unload shipments and continue up towards their final destination. It is a recognizable fact that the deep water port is a more efficient means of oil transportation with least tanker traffic and related risks than the general

ports. Gwadar has been visualized to anchor almost 100 mammoth ships at a time by 2050. The gifted natural deep sea port along with its modern cargo and container handling equipment and infrastructure emerges as an advantageous port over all contemporary ports in the region.

9.3.3.2. Impacts of Climate Change on Ports

The natural characteristic of Gwadar is of great importance. It is a warm-water port and could easily operate all year round. On account of global warming and increased trends of erosion of shores, many ports including few from Persian Gulf which are on sandy coasts are in jeopardy. Gwadar port, however, is a rocky shore and safe from any such erosion and does not require any preemptive measures to keep it safe from tides and waves. Its mountains and rocks are itself a shield and natural defence for it. The Persian Gulf ports are in creeks and massive cost is spent on maintenance which has negative impression on long term business.

9.3.3.3. The Troubled Waters of the Strait of Hormuz

Comparing Gwadar port with contemporary ports of the region, Gwadar emerges a viable deep water port to offer more facilities to the world as the 40 % of world oil transit from the Strait of Homruz which is located at Gwadar's neckline and serves as a gateway to CARs and China. Approaching to the Persian Gulf ports, ships often wait to dock as the shallow and narrow Strait of Hormuz impairs navigation and imposes capacity constraints on ships. In the Strait of Hormuz and strait of Bab-el-Mandab, navigation is restricted to 3 km wide channels each exclusively used for inbound and outbound traffic.

Sometimes large tanker traffic creates navigation difficult along the narrow channels. Whereas Gwadar port has an advantageous location for ships and world business communities to experience a safe harbor climate which has protection against waves and a narrow approach channel.

9.3.3.4. Deteriorating Security Situation of Middle East

The political unrest and turmoil sparked initially in Tunisia, has now spread over the whole the Middle East engulfing Yemen, Syria, Libya, Bahrain, Egypt and Iraq and have hit economic prospects in the region. In addition, growing Iran-US tension over nuclear policy has further complicated geo-political scenario of the region. The political instability and deteriorating security situation in the region has resulted in dragging down economic growth in the region and further a sharp economic slow-down is yet to experience in the near future. However, the ports of Iran will also be limited in their operations as world states would prefer to remain at distance with Tehran over its tense relations with western powers. Any economic interaction with Iran could result in severe economic sanctions from the western community. In this backdrop, Gwadar port provides a stable and proximate point of access to the Gulf ports. The port with its unique geo-strategic presence, serves a key shipping line and an economic gateway to the regional as well as continental countries. The landlocked Afghanistan, Western China and Central Asian States can seek a short and viable access to the global market through Gwadar port. The Gwadar port, with its strategic positioning, can facilitate entire world to converge and diverge businesses which is lacked by the Persian Gulf Ports.

9.3.3.5. Hub Port

Gwadar port serves as a hub port to provide transshipment cargo facility to the regional and extra-regional countries. From hub ports, transshipment freight transfers a shipment from one large vessel onto feeder ships that connect the smaller ports and vice versa. The major global shipping network, especially on the East-West shipping line, uses a hub and spoke system. Geo-strategic location of Gwadar port makes it key regional transshipment hub. Its close vicinity with the main shipping routes connecting key chokepoints of the Indian Ocean region, can serve the entire world to integrate regional ports through hub and spoke system by providing transshipment facility. In comparison to regional ports, Gwadar port can easily transport transit cargo, both liquid and dry, to the Persian Gulf in a short duration of time.

9.3.4. To establish that Gwadar port gets more strategic depth for the Naval forces of Pakistan while providing viable energy route to China, following research findings substantiate the arguments:

9.3.4.1. Protection of Maritime Interests of Pakistan

In the historic context, warm waters of Gwadar coast drew the strategic attentions of Greeks, Portuguese, Arabs, Persians, British and Russians. The strategic interests are associated and determined with the country's scale of maritime dependence. Maritime security, therefore, revolves around the safety of the sea and Sea Lines of Communication (SLOC) for political, economic, strategic, military, scientific and technological interests. The security of SLOC is of immense importance for a country

whose trade is seaborne. In the present global scenario where economic dominance has more value than military expeditions, the development of maritime power at sea for the protection of strategic and economic interests has become more indispensable than it was in past.

Every state has its own security priorities according to its threat perception analysis. For Pakistan, India is a potential threat to its existence. Maritime compulsion of Pakistan are myriad; geographical vulnerability of its main commercial ports, naval base in Karachi from India, growing New Delhi's blue water Navy ambitions , expansion of military and strategic ties between India-Israel-US and protection of country's crucial sea lines of communications all these pose great challenges. Moreover, India's maritime strategy has been directed to achieve a sea-based second-strike capability which will destabilize the strategic balance existing between Indian and Pakistan as former will gain an edge over the later with strategic capability to annihilate in case of nuclear war. Maritime sector in Pakistan is considered the bedrock of country's economic development as 95 % its trade and 100 % of its energy imports is seaborne. With such heavy reliance, Pakistan cannot be indifferent to such developments in the region especially in the historic backdrop of Indian blockade of Karachi in 1971 war which had severe consequences of Pakistan including total destruction of the merchant fleet and closure of the country's commercial activities.

The Geo-strategic location of Gwadar port will help increase the strategic depth for Pakistan. Being situated 725 km away to the west of Karachi port, makes it further away from India and this provides it with crucial strategic depth vis-à-vis India along its

coastline. The port distance from enemy lines makes it a safe and strategically significant place to absorb the Indian air strikes. The port would also enable Pakistan to adopt nuclear 'assure retaliation' postures which is mostly referred as 'credible minimum deterrence' which rely on a small but secure nuclear force that assures a retaliatory strike capability against adversary. This strategic depth would facilitate Pakistan's Navy to locate near to the port vicinity for effective deployment of assault against the enemy during war.

9.3.4.2. Protection of Economic and Maritime Interests of China

China's interest and involvement in Gwadar port is based on its strategic location to serve as a regional conduit for access to energy, raw material and world markets. Gwadar port with all its geo-strategic characteristics facilities Chinese blue water Navy with strategic depth to reach and control capabilities that would ensure security of its energy and trade supply lines originating from Persian Gulf and Africa. Before the construction of Gwadar port, Chinese were incapable of protecting the country's SLOC, especially in the Middle East and the Indian Ocean. The port will facilitate China with a listening post to monitor naval activities of India in the Indian Ocean.

China doesn't have any port of hot waters which can be operational throughout the year. The port of Shangai is about 16,000 km away from the Chinese Industrial areas and sea transportation additional two to three months to reach China's coast Ghazali. This huge distance of travelling costs China heavily in the form of taxes, duties and consumes a lot of time. Whereas, Gwadar port is located just at a distance of 2,500 km from the Chinese

western province and the port is also a hot water port to be functional the whole year. If the Strait of Malacca is blocked by US during any international crisis which is a vital artery and lifeline for China's economic development, Gwadar in that case can emerge as an alternate artery to facilitate Chinese trade in the Indian Ocean. The potential of Gwadar port on the strategic, economic and military perspective would bring Sino-Pakistan in the active maritime cooperation which includes all activities related to freedom of navigation, shipping, coastal defence and the enforcement of international law of sea. Moreover, The China's active involvement in the Indian Ocean would be a great assistance for Pakistan to contain expansionist motives of the Indian Navy in the Arabian Sea as well as it would help modernize its defence industries with the state-of-the-art weapons.

9.4. Recommendations

It is a universally acknowledged fact that every mega project has some inherent looming challenges which could only be tackled with a comprehensive and consistent framework of measures. Gwadar Deep Sea Port mega project's real challenges lie ahead. Gwadar port with all its components can only serve the purpose for which it was designed. For a successful hub port we require a solution focused approach with a viable and workable strategy to adequately address the emerging challenges and dilemmas. The following recommendations, based on the research results, are set out to provide policy guidelines to government, planners, strategists, authorities and researchers in order to optimize potential gains of the port to develop the surrounding regions as an inter-reliant and integrated complex.

9.4.1 Policy Recommendations for Government

9.4.1.1. On part of government's sincere efforts, security and surety to business community must be given through promulgation of the policy and protection of their genuine interests. The government must have a concrete and consistent policy for all businesses and investors. The government's initial plan for businesses community (i.e., tax holidays etc) must be better and more lucrative than Dubai port plan. This is imperative whether we afford it or not but it must be carried away at least for short duration to attract myriad trade and business investments. A thorough study on the existing incentives and privileges must be made to assess whether these are sufficient enough to attract the private sector investors or require additional plans to ensure them least investment risks. The government must ensure rights of the private sector to make legitimate profit and treat it equally with public sector which will help create an enabling investment climate. The functioning institutions must develop business friendly environment in order to create a level playing field to attract foreign direct investment.

9.4.1.2. The internal security situation in Balochistan in particular and Pakistan in general is a key challenge to reckon. The government needs to understand that security challenge in Balochistan must be given top priority if potential of Gwadar port is to en-cash. It is imperative for the government to reach out a mutually agreed and long lasting peace with all parties who have stakes in peace to establish a secure environment to attract private investment. The peace plan must adequately address the concerns of the nationalist elements in the province. At the same time, the government must have a multi-

pronged anti-insurgency strategy to give an impression to the malefactors that the government is resolute to enforce law and order situation at all cost. In addition, majority baloch people don't favour nationalist elements in the province and to capitalize this, the government's effective socio-economic plan will further weaken the footings of anti-state elements. The socio-economic plan with abundance economic opportunities for local people will help them participate in the project mentally as well as physically. The right and share of the baloch people and province must be protected irrespective of what may cost the government to discourage centripetal and centrifugal forces.

9.4.1.3. For security purposes, law enforcing forces must specifically be detailed for the maintenance of law and order in the vicinity of the port in particular and province in general. Moreover, protection of Coastal Highway, industrial zone, port equipments and other important places, availability of electronic surveillance and helicopter need to be provided to have aerial security of the region.

9.4.1.4. Pakistan's armed forces must be provided with all possible modern technology to acquire a sea-based second-strike capability vis-à-vis India. This strategic requirement is indispensable for the very existence of the country.

9.4.1.5. The government must form a committee comprising of experts, technocrats, planners and stakeholders including local, national and foreigner to supervise the work of the project starting from development to planning. The committee must report to Prime Minister or designated authority about the progress on the development work, its effects both negative and positive and challenges to the project, if any. The committee must also

propose recommendations based on facts findings to the government for effective implementation and development of the project.

9.4.1.6. As explained in the chapter 4, the landscape of Gwadar District is unique and fabulous. The government must take concrete steps to develop the areas in the vicinity of the port along with required facilities to encourage and attract local as well as foreign tourists which in turn will be a support to the local businesses. For initial stage, local tourists must be attracted with its matchless hillock, turquoise sea water with golden sand and virgin beaches to build confidence and attraction among foreign tourists which can visit Gwadar located just few hundred miles away from Dubai where around 6 million foreign tourists visit each year.

9.4.1.7. The government must purchase required land for port once and for all and must not procure it in bits and pieces from the investors who have already purchased from the local people. This would discourage the investors to invest in property for construction or real estate business because they consider that their land has been usurped by the government. Moreover, the government must also ensure that the locals must be paid well for their lands as per market value and pricing.

9.4.1.8. To facilitate the surrounding regions with transit and trans-shipment services, the port must be linked with modern rail network to sustain emerging heavy load volume. Moreover, the railway tracks must be connected with industrial zone to facilitate export of industrial products.

9.4.2. Policy Recommendations for Port Management

9.4.2.1. To facilitate trans-shipment, Gwadar port management needs to expand services like warehousing, container yards and manpower to handle massive cargo. Being a hub port on main shipping route, all cargo unloaded from ships has to be kept in container yards or stored in the warehouses before these are transported to their final destination. Cold and cool storage facilities must also be ensured as per facility of Dubai port which has the largest cold storage with sophisticated temperature control system to preserve perishable food through computerized inventory and delivery system maintained by highly professional staff.

9.4.2.2. Shuttle service between Sea port and air port must be established through modern roads like highways or expressways to provide air-sea facility to the investors for time sensitive or perishables cargos. This could only be achieved if modern road acts as fast track between sea port and air port.

9.4.2.3. Gwadar port authority must be provided with the state-of-the-art port handling equipment and latest Information Technology (IT) systems to improve services in advance of customer demand by providing full detailed information of vessel arrivals and departures along with detail guidelines of crane bookings and container movements. New Container Terminal Management System (CSTM) must be incorporated in the port to manage and assist loading, discharging and clearance of containers within a short span of

time. This system is being applied by the Dubai Port Authority (DPA) which has proved to be cost-effective and attractive from business point of view.

9.4.2.4. The GPA needs a dedicated, trained, experienced and harmonized workforce with one mission to uplift Gwadar deep port as a regional commercial hub port with its best service performance and service delivery up to consumer satisfaction. Moreover, specialists must be hired from across Pakistan and also from abroad to implement Gwadar port project as envisioned by the policy makers. These specialists would undertake different trade, business and port management projects and assignments according to their best abilities and expertise. Moreover, in all sectors of Gwadar port, so far as possible, appointments in grade 1 to 15 (non-gazetted cadres) should be given to local and provincial population. After providing technical trainings to the local population, they could easily be absorbed into different port sectors like GPA, GDA, and Special Economic Zone.

9.4.2.5. A separate department of marketing must be incorporated under the port authority to advertise the services of the port. The marketing department with dedicated and experienced team will devise a marketing strategy to approach business community, private investors and international entrepreneurs. In the start up of the project, this department will play a significant role to promote Gwadar port at national as well as international level to build confidence among investors.

9.4.3. Policy Recommendations for Planners and Researchers

9.4.3.1. There is a dire need to educate private investors about the future prospects of Gwadar port. The private investors must be educated through a series of efforts on part of planners and research to organize seminars, workshops, business dinners and also launch media campaign both in print and electronic to prevail upon them. It will be futile if the government fails to maintain law and order situation in the province.

9.4.3.2. There research should also evolve and promote public-private policy dialogue to explore the potential of Gwadar port. The public-private partnership in forming policy planning and mechanisms for port would help identify new avenues for investment. The scope of the partnership will encompass policy formulation, awards of contracts, training and capacity building of the staff, investment promotion plans and infrastructure development. This public-private partnership can only be effective if they are not only given sufficient funding for preparations of feasibilities studies or plans but their plans should also be given preference on technical grounds.

9.5 Research Implications

The research findings will help allow policymakers, defence analysts, economists, practitioners, researchers and consultants to examine the geo-economic and geo-strategic impacts of Gwadar port as a trade and energy corridor to prioritize and align their policies and strategies to achieve sustainable economic growth for prosperity and stability not only in Pakistan but also in the entire region and beyond. Specific contributions are listed below:

9.5.1. Contribution to Academic Knowledge

The nature of contributions in qualitative research is quite difficult to state precisely. One of the main academic contributions is to enhance the scope of knowledge of the field. The following academic contributions of the study and its implications for future work are presented:

Firstly, Maritime transport in today's global world has become one of the main international industries for the support of sustainable economic growth of many countries in the world including Pakistan, whose dependence on seaborne trade is almost 95 %, yet the available research on this sector has lagged behind noticeably. This research contributes to the literature and helps allow academics, researchers and practitioners to examine the role that Gwadar port can play in the economic development of Pakistan and bringing regional economic integration by creating vested interests and economic stakes of all the associated economies of Central Asia, China, Afghanistan, Iran and India. The research presents a rich data through which the potential of Gwadar as a safe, secured and strategic alternate port vis-à-vis Persian Gulf ports to the world countries has insightfully been examined, investigated, indentified and analysed.

Secondly, this research has largely contributed to the literature with analytical findings that there is a close relationship between economics and seaborne trade to achieve a sustainable economic growth as discussed in Chapter 3. The research empirically attempts to identify the aggregate factors that create a link between trade and port for economic growth and development.

Thirdly, the research highlights the hub port concept which is playing a pivotal role in some parts of the world to facilitate large mammoth vessels with loading and unloading shipment services. Being a naturally deep warm water port, Gwadar in this context stands to benefit to safely handle mammoth ships with facilities of efficient container handling, terminal and feeder services. Moreover, to narrowness of the Strait of Hormuz, prevailing security situation in the Middle East and geographical landlocked situation of Central Asia, Afghanistan and Western China, Gwadar is poised to attract transit and transshipment trade with its ability to anchor mother ships up to 2,00,000 DWT which lagged by Persian Gulf ports. Moreover, comparative research data of Gwadar port with regional ports also helps researchers understand ongoing regional port dynamics and trends. The comparative study also gives a review of advantages and disadvantages of all regional ports to determine port performance as a leading regional port.

Fourthly, the research facilitates economists, business communities and investors to comprehend the geo-economic imperatives of Gwadar port for the promotion and development of industries in the country as briefly explained in Chapter 4. A rich data has been provided for economic experts and planners to justify that there is a far-reaching economic impact of seaport investment on a country's economy and regional development which further encourages competition on different economic sectors, promotes industries and generates employment and revenue. Moreover, the research data also attempts to realize concerned authorities and planners about the potential of coastal

development and its full exploitation to benefit from fish production, mineral exploration and even tourism development.

Fifthly, the research findings can be generalized and made applicable to other two ports of Pakistan in Karachi for improvement and infrastructure development to achieve desired performance. The research identifies influencing factors like infrastructural development of the port with all necessary facilities, development of local economy, establishment of industries, provision of electricity and basic amenities, etc should seriously be addressed with viable strategies to get desired results.

Lastly, this research enhances the literature by empirical evidence along with qualitative factors such as government support, regional energy and trade compatible advantages and huge regional markets for investment, historical collaboration among countries through old established commerce such as 'Silk Road', landlocked nature of Central Asia, Afghanistan, Western China and South India and regional political dynamics are the motivating factors that can contribute to make Gwadar port a great success. The research data that are aligned and consistent with the literature provide cogent empirical findings to support Gwadar port development project to achieve economic sustainability in Pakistan in particular and surrounding regions in general.

9.5.2. Contribution to Port Management

One of the main purposes of the research was to aid port management with policy guidelines to optimize port performance and development in the light of comparative analysis of regional ports performances. As a competitor hub port in the region, this

research gives practical insights to Gwadar port authorities and managers to improve port performance in the backdrop of challenges, deficiencies and recommendations to overcome these to compete regional ports to emerge as an economic gateway for the surrounding regions. Moreover, this research empirically identifies the influencing factors that drive port performance through efficient utilization of resources for optimum benefits. For port performance, the research also suggests the adoption of hardware and software tools to attract business.

9.5.3. Contribution to Government

Likewise, this thesis provides tangible policy directions to the government and associated authorities on the basis that merely the construction of Gwadar port would not serve the purpose until the emerging challenges and dilemmas are mitigated to explore the real potential of the port. The recommendations not only identify weak areas of the port project but also give a practical approach to the government to examine the economic and strategic underpinnings of the port in order to capitalize its full potential. Under the recommendations, the government has been guided to prioritize emerging challenges and tackle them with focused direction.

9.5.4. Contribution to Research Methodology

Being a new subject**,** no comprehensive and coherent research has so far been conducted on the Gwadar port. The available material on the subject is either journalistic or critique and ended up providing vague understanding of the port potential and failed to determine

the economic, strategic and military performance of the port in the region. In addition, these papers on Gwadar port lack standard port theories. This research, however, offers honest, comprehensive, realistic and facts finding insights into the process of research. The research was conducted on mixed methods in which qualitative (inductive) method was employed through interviews and quantitative (deductive) method was followed through questionnaires to gather the primary data to authenticate and enhance the research validity. In this empirical method of research, collection of data was accomplished through conduct of large-scale questionnaire survey and extensive interviews with public, private and associated stakeholders.

9.6. Limitations of this Research

This research under empirical research findings have produced insights that Gwadar port has the potential to act as a regional trade and energy hub while safeguarding strategic, military and maritime interests of Pakistan achieved through a rigorous research process. However, during research some limitations also confronted and it is imperative to identify these limitations in relation to data collection and the methodology employed.

The limitations and further research recommendations are:

- Due to financial constraints, the research area was limited only to Pakistan and through emails and telephone calls regional port authorities and staff were interviewed to obtain invaluable data.
- Access constraints and law and order situation in Balochistan, the research was limited to conduct few surveys in the Gwadar port and few in Quetta

while the rest research questionnaires and interviews were conducted through emailing and telephones.

- Mostly the respondents were illiterate and didn't know the answers to the questions.
- Language was also one of the factors as the majorities were pashtoon and Balochi and could not speak Urdu very well. To overcome this, a local translator was hired to avoid any ambiguity.
- Public authorities were reluctant to share facts and figures and tried to conceal the information and were not willing to give interview.

9.7. Recommendations for Future Research

Further research on the Gwadar port should be conducted to cover a specific area like a research on the environmental impact of Gwadar port on the Makran Coast, Impact of Gwadar port on employment in the region, economic impact of Gwadar port on the performance of Karachi ports and how effective has been Gwadar port to provide strategic depth to Pakistan's armed forces etc are highly recommended. To generalize research findings, future studies should extend the research areas to encompass more randomized samples of more ports worldwide.

9.8. Conclusion

Gwadar port's deep sea natural characteristics, unique geo-strategic presence along the rich sea lines with close proximity to the world's key energy and trade choke points and well-planned trans-national road network, railway lines, oil and gas pipelines will be a real driver to stimulate trade and economic cooperation, promote economic integration

and foster sustainable economic development through enhanced regional connectivity. Gwadar port's location supplements the potential of the old Silk Road as a regional economic conduit and enhances the scope of its revival which will link the destinies of Pakistan, China, Afghanistan and Central Asia with the warm waters of the Arabian Sea and the Persian Gulf. The port is on the confluence of Central Asia, Afghanistan, China and the Middle East, placing Pakistan close to the three-pronged trade and economic corridor between these regions. In this backdrop, Gwadar Deep Sea Port is poised to act as a new economic gateway to benefit Pakistan and surrounding regions in addition to the national security by establishing operative naval bases within its vicinity to provide strategic depth and reduce geographic vulnerability of Pakistan Navy from India.

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