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IRAN-PAKISTAN-INDIA (IPI) GAS PIPELINE PROJECT TO
CONFLICT BETWEEN INDIA & PAKISTAN**

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*The Relevance of the Proposed
Iran-Pakistan-India (IPI) Gas Pipeline Project to
Conflict between India & Pakistan*

Submitted by

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Dedicated to the people of South Asia

“.....the traditional agenda of international affairs-the balance among major powers, the security of nations-no longer defines our perils or our possibilities...Now we are entering a new era. Old international patterns are crumbling; old slogans are unconstructive; old solutions are unavailing. The world has become interdependent in economics, in communications, in human aspirations.”(Kissinger, 1975)

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INTRODUCTION

Given the huge population of the Indo-Pak sub-continent (approximately 1/5th of the globe) and hitherto less-than-potential level of development, the South Asian region is marred by lower per capita incomes and widespread and increasing poverty.¹ Economic development in both India and Pakistan has remained hostage to conflict between the two. The conflict between India and Pakistan has had historical, religio-cultural, politico-economic, geo-strategic and international security system-specific dimensions. Both countries have had juxtaposed world views on international, regional, bilateral and internal issues and debates and the same have been reflected in their internal and foreign policies. The ideological divide of the Cold War era saw them in opposite camps and in the context of bilateral antagonisms arising out of disputes over Jammu & Kashmir, sharing of water resources, demarcation of boundary in the Eastern and South-Western areas of Pakistan and on issues such as nuclear proliferation, terrorism, bilateral and regional trade etc. have kept them horns-locked throughout most of their post-independence history. Both countries have been engaged in sporadic and hostile confrontations, overt as well as covert, and maintained sizeable military muscle consuming billions of dollars at the expense of huge populations suffering from extreme deprivation in economic and human development terms. (HDC;2006).

It was, however, in the wake of demise of Cold War at the start of the 1990s and later on, the overt nuclearisation of the two countries in 1998, that economic factors steadily took the fore and substantially pushed military and geo-strategic concerns into a position of relatively lower priority, if not total insignificance, in bilateral relations. A related development in the wake of end of Cold War has been the significant trend of “regionalization” of the international/bilateral conflicts and in case of India and Pakistan it has become more pronounced than elsewhere. Despite certain hiccups in the wake of 9/11 and resultant concerns over the issue of terrorism, a visible continuity of constructive engagement on core issues (both at formal and “Track-II” levels)² potentially leading to conflict resolution through peaceful means between the two is discernible over the last ten years or so. It has also been reflected by the continuity of the “composite dialogue”³ covering a comprehensive range of issues of bilateral, regional and international dimensions including Kashmir, water resources, terrorism, regional and trans-regional trade etc. The emergent rapprochement has been reflected by fading out of the rhetoric, war mongering and mutual accusations of sponsoring terrorism at official and non-official levels, expansion of bilateral political, cultural and tourism exchanges, revival of sports relations, opening up and increasing bilateral trade, etc. Also, as one would have expected keeping in view the hardened positions of the two countries on various issues, the so called “Track-II” diplomacy has been more useful than the formal/official talks between the two. (Cheema, 2006.)

However, at the same time, it has also been noted that “...there has been no confidence-building measure capable of locking India and Pakistan into an irreversible relationship and acting as a powerful catalyst for bilateral development, prosperity and

regional stability. In the absence of mutual trust, confidence and cooperation between these two countries, it becomes imperative to identify potential areas of cooperation to reduce threat perceptions in the region.”(Pandian, 2005).Here it may also be emphasized that although the economic relationship alone does not play a pivotal role in strengthening the foundation on which the political relationship is built, yet economic factors have a considerable leverage in influencing the political relationship.

On the economic front, both countries have shown sustained and reasonably higher rates of economic growth from 2000 onwards.In the regional context,it has been noted that “...although they face common developmental obstacles, South Asia’s so-called “low income” economies are [also] among the most dynamic in the world. Rates of economic growth—measured as percentage change in gross domestic product (GDP) at market prices based on constant local currency-in the region’s three major countries (India, Pakistan, and Bangladesh)-all exceeded 5.4% in 2005.Growth in South Asia has been sustained with two key sources of real expenditure growth—private consumption and fixed investment”(World Bank,2006). In case of India in particular, sustained growth rate over years has been both a cause and consequence of transformation of the entire economy since the 1991 reforms in favour of liberalization (Rajadhyaksha,2007),and resulted in the emergence of a sizeable, and expanding, middle class.Moreover, increasing industrialization and professional,knowledge-based,middle-class oriented entrepreneurship, has created relative prosperity among the middle class and consequent additional demand for affordable energy supplies for both household and industrial consumption. Given a substantial industrial infrastructure in place in both India and Pakistan, sustained economic growth, a precursor to poverty alleviation, requires uninterrupted supply of energy-oil and gas-from regional and international sources, mainly the Middle East, Western and Central Asia in this case. There is a growing realization among Indian policy makers to consider the import of natural gas to address India's growing energy demand. Among many policy options to import natural gas, Indo-Iran overland pipeline option is considered to be effective and economical in addressing India’s (and Pakistan’s as well) long-term energy demands. (Pandian,2005). Therefore, with the growing energy demands in India and its neighboring countries, the proposed Iran–Pakistan–India (IPI) gas pipeline assumes special significance. It also signifies an important trend whereby energy-deficient countries such as India, China, and Pakistan are vying to acquire gas fields in different parts of the world. This has led to two conspicuous developments: first, they are competing against each other and secondly, a situation is emerging where they might have to (forge cooperation to) confront the US and the Western countries in the near future in their attempt to control energy bases. (Verma,2007)

The proposed Iran-Pakistan-India (IPI) gas pipeline project is therefore a reflection of the emergent realities in South Asia whereby geo-strategic, political and military dimensions of mutual relations seem to give way to the emerging pre-eminence of economic factors in bilateral relations having far-reaching implications for pattern of conflict between India and Pakistan as well as economic development and cooperation in the region. A faster and cheaper 'energy- input- based' industrialization can be instrumental in sustained growth ultimately leading to poverty alleviation on one hand

and provide 'stakes-based' incentive for conflict resolution and a possible regional economic integration on the other. It can also potentially rectify the increasingly precarious energy security situation in South Asia. It is rightly argued that "South Asia's future energy consumption will be driven by continuing economic growth and demographic trends. The likely inability of India, Pakistan, (and also Bangladesh) to meet burgeoning energy demands poses a threat to their energy security". (Sáez, 2007) The current constraints on the ability of South Asian countries to enhance their energy security, either indigenously or through imports may have unintended negative consequences for overall strategic and economic equilibrium within the region thereby also affecting conflict resolution process adversely. Participation in the IPI can help the the two major countries of the region combat looming water scarcity and consequent increased shortage of hydro-electric power (vis-à-vis an increase in demand for electricity estimated at about 12% per annum. Rapid economic development and resultant effective poverty alleviation will also result in decline of regionalism/provincialism, extremism and "terrorism", and provide positive incentive for peaceful resolution of conflict between India and Pakistan .

Hence the need for a study of the IPI project as a potential vehicle for peaceful resolution of conflict between India and Pakistan and economic well being of the people of the entire South Asian region as a whole. In the light of emerging economic and regional energy security realities as outlined above, it may no more be an 'outlandish' proposition that the energy trade between India and Pakistan (the first step of which is the proposed IPI) has "enormous potential to lock them into an irreversible economic interdependence, thereby reinforcing their efforts to intensify relations in other potential areas of cooperation. ." (Pandian, 2005).

The paper attempts to study the proposed IPI project with reference to its economic and regional energy security rationales and its relevance to and potential for resolution of conflict between India and Pakistan. The paper two main research objectives, which are; Identification of the rationale for participation in the IPI project by India and Pakistan in terms of economic benefits, extent of assured energy security and therefore, incentives for a sustained, irreversible constructive engagement that potentially may lead to resolution of conflict between the two and ultimately, to increased development, prosperity and regional stability. and; also look into national, bilateral, regional and international environ to identify factors that may account for success or failure (feasibility/infeasibility) of the project.

The specific questions addressed by this study include:

To what extent participation in IPI project can prove to be a catalyst for a sustained, constructive and mutually beneficial engagement leading to conflict resolution between India and Pakistan. For a detailed answer to this, the study approaches the subject through three sub questions such as:

1-What is the energy scenario of India and Pakistan in terms of current and projected demand and supply of energy, specially natural gas?

2-What is the IPI project and what energy security and economic benefits it offers that make it attractive for both India and Pakistan them to join?

3-How joining IPI can be a catalyst for increased interdependence and ultimately conflict resolution between the two countries?

The study, therefore, looks at IPI with reference to its potential for conflict resolution between India and Pakistan from THREE essentially interrelated perspectives, that is, assurance of economic benefits, enhancement of energy security at national and regional levels, and, the resultant increased mutual interdependence that can potentially lock them into an institutional framework of economic cooperation at regional level. This analysis concludes that participation in the IPI project is of vital importance for conflict resolution between India and Pakistan in the sense that owing to an increasing shortage of natural gas, and also having the advantage of bordering the Persian Gulf and Central Asia, two of the world's major natural gas rich regions, both can use this geographical proximity as the basis for mutually beneficial economic cooperation between in energy trade. Besides being a highly cost-effective source of sustained energy inflow, the proposed IPI project will draw India and Pakistan closer into an enduring energy partnership and break down barriers against commercial engagement between the two nations on one hand and enhance regional energy security on the other, thereby reducing the chances of a future conflict. Moreover a pipeline agreement supported and joined by India and managed and protected by Pakistan against any disruptions of flow of natural gas would bring both political as well as economic benefits. Thus, the proposed IPI pipeline project could be a key CBM (Confidence Building Measure) in resolving irritants in their political relations, and in the long haul, forging and intensifying a new relationship between India and Pakistan.

In terms of organization of content, the paper consists of five parts/chapters:

One, a brief review of relevant literature to contextualize the economic interdependence, energy security and conflict-resolution concepts in theoretical terms.

Two, an overview of the energy demand and supply situation in India and Pakistan and the available options and strategies of the two countries.

Three, an overview of the IPI project, its layout and projections of output, geographical route, status of negotiations, timeline and costs of completion.

Four, a survey of the internal, bilateral, regional and international factors (mainly security, geo-strategic, economic and political) that can potentially facilitate or obstruct its progress/conclusion.

Five, an assessment of the impact of participation in IPI on the conflict between India and Pakistan; it includes background and costs of the conflict, transformation of security perceptions from military to economic ones and resultant normalization efforts; and finally, what may be the direction of the conflict in the light of factors discussed in part Four.

CHAPTER -1

Literature Review:Contextualizing Economic Interdependence,Energy Security and Conflict Resolution

Studies have extensively as well as intensively reflected upon the issues related economic cooperation between adversaries as confidence building measure towards conflict resolution,spill over of bilateral/regional or international mechanism for such cooperation and/or enhanced security to mutual political and strategic relations(in this case,the potential spill-over of enhanced energy security in South Asia to the relations between India and Pakistan).Moreover,the role of transformation of the respective elites' perceptions in the light of emerging economic,political and strategic realities and the cost-benefit analyses in determining the future of this transformed direction of bilateal relations have also been discussed by various authors.

In the context of emerging , and increasing,competition for existing and potential sources of energy,there is imperative need to link these emerging perspectives to the analysis of the conflict and cooperation patterns of future intra- and inter-state, regional and international relations. Accordingly,studies have attempted to formalize findings with a view to assess potential of cooperation ,or for that matter, prospects of conflict arising out of energy scenario and strategies of different sub-national,national,regional and international actors,a natural corollary of which is the economic cost and benefit calculus and rationalization of continuing or divorcing a conflicting posture towards the adversary.In the context of energy security debate,these approaches vary in their perspectives:from that of a country,region,producer,consumer,importer,exporter,transit/supply country etc.and encompass multifarious variables considered crucial in contemporary energy security,bilateral,regional and international cooperation,trade and conflict studies.It would, therefore not be out of place to survey relevant literature to find out the economic,security,trade and conflict rationale of studying IPI project, with special focus on participation of India and Pakistan in it.

In the following lines ,the study looks at the potential of conflict resolution between India and Pakistan from the locus of interdependence and trade models and then gives a detatiled explanation of the concept of 'energy security'so as to link the emerging pattern of regional and international relationa and how it affect(and also help understand) the dynamics of inter-state (and intra-state as well) conflict and modes and mechanisms for conflict resolution.

The classical models of interdependence, such as put forth by writers like Joseph S.Nye and Robert O.Keohane,(1977)emphasize the use of multiple channels of action between societies in interstate, trans-governmental, and transnational relations, the absence of a hierarchy of issues with changing agendas and linkages between issues prioritized and the objective of bringing about a decline in the use of military force and coercive power in international relations as important factors in promotion of

interdependence and potential/consequential regional integration aimed, mainly, at economic development. Throughout the Cold War era the economic issues in local and international politics remained overshadowed by and subservient to the concerns emerging out of the ideological divide. After the end of Cold War, however, the ruling elites in both Pakistan and India, like other developing countries, found themselves pitted against myriad economic challenges, the most important being the quest for a sustained economic growth to ensure effective targeting of widespread poverty and underdevelopment on one hand and enhance their political legitimacy on the other. This common goal i.e. faster and sustained economic growth and development which can be a contributing factor towards enduring legitimacy for the elites and stability at political and social levels within each country can effectively and affordably be realized if cheaper energy is continuously funneled into the region. Besides, there is a pressing compulsion that military conflict is downgraded effectively through increased economic cooperation and interdependence institutionalized in some project-based participative arrangement, raising stakes for peace and also having potential of ensuring continued commitment to that end for a foreseeable future till the process of conflict resolution is complete.

“Elite theory” seeks to describe and explain the power relationships in modern society. It argues that a small minority, consisting of members of the economic elite and policy-planning networks, hold the most power no matter what happens in elections in a country.⁴ It further argues that through positions in corporations or on corporate boards, and influence over the policy-planning networks through financial support of foundations or positions with think tanks or policy-discussion groups, members of the "elite" are able to have significant power over policy decisions of corporations and governments. In case of Pakistan, the sustained and expansionist role of military (with feudal and industrial interconnections) elites institutionalized in “MILBUS”⁵, that is, military’s business empire and their continued quest for maintaining it and also seeking political legitimacy, indicates that elite perceptions, at least in Pakistan, are going to favor the ongoing process of conflict resolution between India and Pakistan. In case of India, the emerging industrial entrepreneurs have exactly the same motive for allegiance to it. The ever-expanding middle-classes, mainly the “second generation” educated and economically vibrant segments of populations who are “free” of the bogey of partition-related prejudices and having an inherent interest in continued economic cooperation also provide “natural” supporters to the elites’ initiatives for conflict resolution. The proposed IPI project thus envisages a potential institutional framework for mutual economic benefits as well as continued allegiance to its purpose

The liberals believed that economic interdependence, as well as democracy, would reduce the incidence of interstate conflict. Studies such as conducted by John R O’Neal and Bruce M Russett (1997) have used pooled-regression analyses of politically relevant dyads for the Cold War era. They found that the pacific benefits of trade, both total and dyadic, have not been sufficiently appreciated in previous literature on the subject. They also offer clear evidence that democracies are relatively unlikely to become involved in militarized disputes with other democracies, while autocracies and democracies are prone to conflict with each other. They maintain that since democratic dyads are more peaceful than autocratic dyads, it follows that democracies are more

peaceful than autocratic states generally, *ceteris paribus*. The entrenched institutional allegiance to democratic norms in India and a recent transition to democracy in Pakistan need to be viewed in the context of potential of allegiance to democracy in the process of conflict resolution through peaceful means.

In another significant study, the writers O'Neal, J.R., Russett, B.M., Berbaum, M., L. (2001), maintain that previous studies provided strong evidence for the Kantian theory of peace, but a satisfactory evaluation required establishing the causal influence of the variables. Therefore they focused on the reciprocal relations between economic interdependence and interstate conflict, (1885–1992). Using distributed-lags analyses, they find that economically important trade does have a substantively important effect in reducing dyadic militarized disputes, even with extensive controls for the influence of past conflict. The benefit of interdependence, they argue, is particularly great in the case of conflict involving military fatalities. Militarized disputes, they say, also cause a reduction in trade, as liberal theory predicts. Democracy and joint membership in intergovernmental organizations, too, have important pacific benefits; but they find only limited support for the role of costly signals in establishing the liberal peace. They find no evidence that democratization increases the incidence of interstate disputes; and contrary to realists' expectations, allies are not less conflict prone than states that are not allied. They further argue that democracies and states that share membership in many international organizations have higher levels of trade, but allies do not when these influences are held constant.

Authors such as Fortana (2004). have emphasized the elements of “rationality”, high cost of war and mutual advantage arising out of a peace agreement as the three main ingredients for success of agreements between erstwhile belligerents. “Rationality” refers to leaders’ behavior of purposefully making decisions using information available to them and considering the expected costs and benefits of their actions.” High cost of war” refers to the price that states tend to bear as exchange of the benefit they expect to get in case of winning: if an agreement forecasts such benefits that one expects after winning the war, it is not an option worth consideration, hence preference for peace. “Mutual advantage” out of an agreement follows the “stakes theory” that attaches greater significance to the magnitude and sustainability of such benefits for the parties in determining the continuity of their allegiance to an agreement.

Highlighting the emerging quest for energy security, authors such as Michael Klare (2008) argue that global competition over energy will be “a pivotal, if not central, feature of world affairs for the remainder of the century. In the context of (national and international) policy options, the statement of Richard Boucher, U.S. Assistant Secretary of State for South and Central Asian Affairs, that “...one of our goals is to stabilize Afghanistan, so it can become a conduit and a hub between South and Central Asia so that energy can flow to the south. . . . and so that the countries of Central Asia are no longer bottled up between two enormous powers of China and Russia, but rather they have outlets to the south as well as to the north and the east and the west” 6 should suffice here to reflect the ongoing struggle for capture of sources of energy and also to point out the need to understand the very concept of energy security in the first place.

Writers such as Len (2007) suggests that “there are in fact many different interpretations of what energy security refers to. At the very basic level, it typically

entails two concepts: availability (of supply and demand) and pricing. For exporting countries, energy security translates into the certainty of market demand in terms of quantity at predictable prices. For importing countries, energy security can be understood as the availability of energy at all times, in sufficient quantities, and at affordable prices'. He further defines energy security in Asia 'as a stable, cost effective and sustainable supply of energy based on an efficient and environmentally friendly energy supply, emergency preparedness and international cooperation'. (Len, op.cit)

Another significant study by Shirley A. Jackson (2007) views energy security as 'an adequate and sustainable supply of energy to meet the needs and aspirations of citizens, commercial enterprises, and public sector functions'

Further, Jackson attempts building a model upon a set of strategies for achieving energy security which, though, varies according to nations and regions, but certainly includes the following five elements:

1. No overdependence on external suppliers. This entails both maximizing domestic or local production and ensuring reliable sources for necessary fuel imports.
2. Diversity of supply. This provides protection against supply disruption events, such as natural disasters or geo-political instability. It also provides a hedge against fuel price volatility
3. Well functioning energy markets. This includes ensuring the profitability of fuel production and energy generation for suppliers, as well as mechanisms to secure financing for long-term strategic energy investments. The latter is frequently a sticking point of energy insecurity for developing countries.
4. Sound infrastructure for energy generation, transmission and distribution. This includes the necessary regulatory and operational protocols to ensure the safe, secure and reliable performance of refineries, power plants and other energy facilities.
5. Environmental sustainability. The impact of human consumption on the planet is taking center stage as a global concern. (Jackson, op.cit)

South Asia Center for Policy Studies (SACEPS, Kathmandu, Nepal) Task Force Report on "Energy Cooperation in South Asia" under Shankar K. Malla (2007), finds that existing cooperation arrangements within the countries of the region are minimal and, therefore, suggests that the "energy cooperation in South Asia has to be approached in a step-by-step manner. First and foremost, is the need for participating countries of the region to adopt energy cooperation as a long-term policy, which has to be spelt out very clearly? The objective of the policy would be to expand the current level of cooperation through exchange, trading and developing of power and gas in the region.

Cooperation among the participating countries can range from exchange of experiences to complete integration of electric power /gas networks in the region. A gradual approach is suggested which starts with limited cooperation and eventually leads

to integrated development. This is a pragmatic approach because it helps generate mutual trust and confidence, which subsequently opens avenues for greater cooperation in future.

An in-depth study of all possible aspects of cooperation is a pre-requisite before identifying specific areas of cooperation. Such cooperation becomes possible if based on agreed principles which include:

- 1-Adoption of sustainable win-win option
- 2-graduation in degree of cooperation to facilitate build-up of confidence and:
- 3-Equity of benefits and balanced development of participating countries.

The potential of cooperation in improving energy supply in South Asia is enormous through optimum utilization of resources on a regional basis. To make this possible, there is a need for a policy decision to be taken at the highest level by the cooperating countries. Each country should recognize and endorse international trading and sharing of power as an integral part of the policy. A formal protocol is to be formulated and agreed by all the cooperating countries. This is to be followed by the adoption of a two-pronged approach, one based on creating a SARRC Power Grid connecting the cooperating countries of the region with a view to ensure quality power supply in the region. The other would be to conduct an in-depth study of all possible options and formulate a strategy of power development and trading among the countries. A regional coordination committee is required to be constituted to take a leading role in developing an action plan for regional cooperation. This can be under the auspices of SARRC, or otherwise.'

A study named 'Scoping Study for an Energy Security Model for India', conducted by Tata Energy Research Institute (TERI) argues that "developing an energy security framework involves assessment of alternative energy supply options, both in terms of resources and sources. A review of the report point out the following parameters for preparing an energy security model: (TERI,2007)'

1. Financials of Decision: This would indicate the cost of supply and use of energy resource, which is the most important factor influencing choice of energy, in terms of both type and source.
2. Economic Stability of Energy Source Country: This variable reflects the ability of the source of meet long term commitments, whether these are investments in exploration and production, or long-term energy supply contracts.
3. Political Security at Source. This variable reflects the short-run stability in energy supplies. Political security concerns can arise from domestic as well as international considerations.
4. Trade Regimes. Trade issues are of importance in global economy with several multilateral and bilateral trade agreements.

5. Regulatory Stability. Institutional and regulatory stability is critical to meet long term commitments. While these could be correlated to changes in political or economic regime, they could also take place independently.

6. Potential for Fuel Switching. This parameter signifies the possibility of fuel switching, particularly when supply of resources become unstable in addressing energy security concerns.

7. Environment Concerns. Environmental considerations are important in energy security issues in the form of constraints that they impose on either the availability or the use of fuels.

8. Infrastructure Availability. Infrastructure unavailability is a constraint for the import and use specific fuels. This variable plays an important role in determining an optimal portfolio.

According to S.D Muni and Girijesh Pant.,(2005). 'Indian concerns for energy security' can be addressed by 'diversifying the sources of supply, building strategic reserves and augmenting storage facilities' It also recommends a stable energy cooperation relationship with the neighboring countries.

Asia Pacific Energy Research Center's study(2007) entitled 'A Quest for Energy Security in 21st Century : Resources and Constraints' defines **Energy Security** 'as the ability of an economy to guarantee the availability of energy resource supply in a sustainable and timely manner with the energy price being at a level that will not adversely affect the economic performance of the economy. Thus there are several factors that can influence the 'security' of energy supply, such as :(1) the availability of fuel reserves, both domestically and by external suppliers;(2) the ability of an economy to acquire supply to meet projected energy demand;(3) the level of an economy's energy resource diversification and energy suppliers diversification;(4)accessibility to fuel resources, in terms of availability of related energy infrastructure and energy transportation infrastructure;(5)geopolitical concern surrounding resource acquisition. In terms of energy demand elasticity, an economy that is able to decouple economic growth with energy use- through energy efficiency and conservation- will have an advantage in terms of its energy security'. Following this definition the study describes three fundamental elements of energy security which are:

1. Physical energy security, the availability and accessibility of supply sources;
2. Economic energy security, the affordability of resource acquisition and energy infrastructure development ; and
3. Environment sustainability, the sustainable development and use of energy resources that 'meets the needs of present without compromising the ability of future generations to meet their own needs'

Daniel Yergin (2007) ,chairman, Cambridge Energy Research Institute, a leading international energy-consulting firm, presents a US-specific model. According to Yergin,

'there is, understandably, much focus on energy security today. But what does the concept mean for the 21st century and how does it need to be updated from traditional definitions? I would like to offer these principles:

1. Diversification of supply is the starting point.
2. Resilience, a 'security margin' in the energy supply system that provides a buffer against shocks and facilitates recovery after disruptions.
3. Recognizing the reality of integration- there is only one global oil market.
4. The importance of quality information.
5. The need to engage such countries as China and India in the energy security system.
6. Expanding energy security to include the infrastructure and the entire energy supply chain.
7. Recognizing flexible markets as a source of security.
8. Renewing the commitment to energy efficiency and conservation.
9. Strengthening the investment climate itself.
10. Development and deployment of new technologies.

Another very relevant document, entitled "Regional Energy Security for South Asia Report", referred as the 'RES (Regional Energy Security) Report.'"(SARI,2008) and sponsored` by the USAID program, describes the collaborative steps that could be taken by the eight countries of South Asia- Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka – to provide energy security for each individual country and for the region as a whole. Key steps to achieve energy security which are discussed in the body of this report include:

1. Diversify the sources of fuel supply.
2. Develop an energy sector master plan, including a hydropower master plan, for South Asia.
3. Develop a regional power grid for power exchanges/trading within the region and with neighboring countries around the region.
4. Develop a regional gas grid and promote regional trade in natural gas.
5. Establish a South Asia Infrastructure Development Financial Institute to promote and facilitate inter-country energy development opportunities.
6. Strengthen the SAARC Energy Center (SENER) as an institutional mechanism to share information, facilitate regional planning, provide training, database and research facilities, and promote a common strategy to address regional energy concerns.
7. Explore development of regional and in-country strategic oil reserves.

In the light of the foregoing,we may,therefore,conclude that the concept of energy security,in all its economic,geo-strategic and political dimensions has significant and almost inseparable linkages with the very basic questions concerning inter-state relations,and will hold the key for virtually any studies and analyses for future cooperation and conflict at bilateral,regional and international levels.

CHAPTER-2 Energy Profile of India and Pakistan (Demand, Supply, Options & Strategies)

Regional Energy Scenario: Energy Scarcity Vs Energy Security;

The demand for energy is increasing globally in the world with the increase in the world population coupled with growing energy demand in the US and the rapidly expanding economies of China, India and other countries of Asia. From 1950 to 2000, the world population rose from 2.5 billion to 6 billion people. Water use tripled –as did grain production. The demand for sea food increased fivefold The number of auto mobiles globally grew from 53 million in 1950 to 539 million in 2003. And with the introduction of commercial jet air craft in the late 1950s, air travel volume mushroomed, from about 28 billion passenger kilometers at mid century to more than 2.9 trillion in 2002. Each of these trends can be measured in terms of energy demand. Worldwide energy consumption per capita is now roughly 13 times higher than in pre-industrial times and this in only on the average rate: bear in mind that there are still 2.4 billion people-over 35% -who have no access to modern energy services’(Jackson,2007 op.cit)

International Energy Outlook 2007 (IEO 2007) estimates that ‘world consumption of oil is 83 million barrels a day (mbd) and the demand is projected to go up to 118 mbd in 2030. Supply figures are unable to tally with the projected demand. World oil production is expected to peak between 2010 and 2020 at 80 mbd and the production from all known sources will peak in 2015 at 90 mbd.

‘The significance of energy security is greater for South Asian nations (consisting of Pakistan, India, Nepal, Bhutan, Bangladesh, Sri Lanka and Afghanistan) where the demand for energy is increasing by 7-8% annually’(Jabeen,2006). Pakistan and India, particularly the two fast growing S.Asian economies, are currently facing huge energy deficiencies and striving desperately to meet their future energy needs. Both India and Pakistan, in terms of their population, constitute about 95% of the S.Asian people. Therefore, there is a need to focus on these two nations so that they could address critical energy concerns being faced to sustain their economic growth.

India’s energy demand is projected to increase by 3.8% to 4% a year through 2020. The oil demand growth is projected to 2.3 % per year and it is the highest in Asia. Pakistan needs 240,000 barrels of oil per day but produces 63000 barrels only. Around 175000 barrels is imported. Studies suggest that Pakistan’s gas shortfall will start from 400 million cubic feet per day (Mcf) in 2010 and will rise to 4 billion cubic feet per day (Bcf) by 2025, as the economy grows at the currently projected rate of 7 % annually’(Ali,2005) However, according to Pakistan Energy Year Book 2006, exact indigenous oil production as on 30 June 2006 was 65577 mbd (million barrels per

day). Sui Southern Gas Company (SSGC) estimates even a bleaker picture of gas deficiency which will be 778 (Mcf/d) in 2010, will further reach up to 11.1 (Bcf/d) by 2025. Moreover, the demand for gas is increasing by 7-8 % per annum and further delay in completion of gas pipeline projects would create supply problems for Pakistan. (Jabeen, op.cit.) It has been estimated that for Pakistan, 'the energy deficit which stands at 17 million tons of oil equivalent (MTOE) or 29 % of the energy demand in 2006 will go up to 136 MTOE by 2025' (HCIP, 2006). And, 'by 2020, the demand for natural gas in India would increase to 400 metric cubic meters (mcm) from the present 170 mcm'.⁷ The current situation is likely to worsen with the recent increase in oil prices, which have gone up to an unprecedented \$ 140 a barrel ⁸ in the international market.

This grim scenario is further aggravated by a mix of unresolved political and security issues in the region such as: the Kashmir Dispute between India & Pakistan; Dispute of Brahmaputra River Water Distribution between India & Bangladesh; persistent volatile security situation in Afghanistan, especially in the border region between Pakistan & Afghanistan caused by the "war-on-terror"; sabotage activities in Balochistan province of Pakistan; absence of consensus building measures over the construction of mega hydropower projects among the four provinces of Pakistan; and last but not the least, Washington's all out opposition to the proposed Iran-Pakistan-India (IPI) Gas Pipeline Project (herewith referred to as "barrier politics"), all contribute to further the already widening gaps between energy demand and supply in the region. These issues are the impediments in development, progress, trade, cooperation in the field of energy in S. Asia.

To overcome the growing energy demands India has concluded a Civilian Nuclear Energy Deal with the US in 2006. Under the nuclear energy deal, America has offered India access to the world's nuclear expertise to help build India's atomic energy program' (Jabeen, op.cit.). Pakistan on the other hand has been denied the similar sort of deal by the US. But the fact of the matter is that both India & Pakistan, as the two fast growing but energy deficit economies, in spite of the above cited impediments, have to look for the regional cooperation, at the SAARC level or even beyond that, to collaborating import and trade energy in order to enhance their energy security.

Notwithstanding the "barrier politics" being played by the US due to her anti-Iran posture, the 2600-km long Iran-Pakistan-India (IPI) pipeline, costing over \$7 billion, the 1600-km long Turkmenistan-Afghanistan-Pakistan (TAP) pipeline, estimated at a cost of \$3.3 billion, (the project was opposed by the Clinton Administration due to the then Taliban rule in Afghanistan, though the Asian Development Bank had termed TAP project as viable); and the \$8 billion Qatar-Pakistan-India Gas Pipeline are such mega projects which, if materialized, will bring greater energy security in the region.

In this scenario' Pakistan is uniquely positioned to become Asia's emerging energy hub and corridor, linking the supply source countries of the Middle East and Central Asian Republics with high energy demand centers such as China and India. ⁹ The "Energy Corridor" concept was presented by Sui Southern Gas Company (SSGC) of Pakistan at the 2nd. Annual Energy APAC-2006 Conference held in Beijing on March 13

and 14, 2006.”the concept of Pakistan emerging as the energy hub for all of Asia was widely recognized by the delegates attending the conference’10.The SSGC also prepared a conceptual study of a 3300-km long,(with an estimated cost of \$5 billion,) Gwadar-to-Khunjrab Pass ,”Korakoram Oil Pipeline Project.Korakoram pipeline will connect China to established and sustainable sources of energy supply in the Middle East with a possibility of extending into Iran for bypassing the Strait of Hormuz if needed in future’11

India’s Energy Scenario

The overall economic indicators show that India is one of the fastest growing energy markets in the world, with the demand continuing to outstrip the supply. The main drivers of energy consumption in India are electricity generation, industrial operations, transportation, and urban and rural household uses. The studies show that the energy sector in India decides the direction of economic growth, as there is a direct correlation between the two.12.Moreover,it is argued that faster economic growth continues to accelerate the demand for energy products. Among government policy makers,there is a growing awareness that, if a high rate of economic growth of 6% per annum is to be sustained, the power supply would have to grow by about 9% per annum.(Mubayi, 2003) .Estimates quote that”t is expected that, if India’s economic growth rate reaches 7% per annum, energy needs are expected to rise by 10% annually”. (Pandian:2005).It is widely viwed that even with a moderate growth rate of 5.5% per annum, average annual energy consumption in India is expected to grow by 3.8% per annum between 1996 and 2020.(Pandian,op.cit.).Moreover,as of March 2004, the total electricity-generating capacity in India was 10,8315 megawatts (MW).(Pandian,op.cit).projections on electricity demand reveal that as per Five-Year Plan, an average of 10,000 MW of additional power is required over the next 5 years if India is to meet its demand for electricity.(Pandian,op.cit).Resultantly,the average annual growth between 1995 and 2020 in net electricity consumption is projected at 4.9% per annum.(Pandian,op.cit) It is also reported that at present, India’s energy resources are mainly addressed by domestic coal and imported oil resources.(Pandian,op.cit,also see table 2.1)

Table 2.1 Sources of Primary Energy Supply in India

Source	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06(P)
Petroleum products (MMT)	57.75	106.97	107.71	111.78	115.99	120.17	121.05
Natural gas (net) (BCM)	12.77	27.86	28.04	29.96	30.91	30.78	31.33
Coal (MMT)	211.73	309.63	327.79	341.29	361.25	382.61	405.2
Lignite (MMT)	13.77	22.95	24.81	26.02	27.96	30.34	32.53
Electricity (BnkWh)	289.4	554.5	579.1	596.5	633.3	680	730.32

[Source:GOI(Government of India) in Singh,A.,(2008),”The Economics of Iran-Pakistan-India Natural Gas Pipeline”,Economic & Political Weekly,57-65]

It has been pointed out that India’s continued reliance on coal as a leading energy source is mainly influenced by cost factors. Looking at Indian energy security perceptions, fuels that are dependent on fluctuating international oil prices pose problems of uncertainty and foreign exchange exposure(Mubayi,2003).On the other hand, it is noted that the price of Indian coal is fairly stable as it is not subject to the uncertainties of the exchange markets.Therefore the consideration remains that the backbone of the electricity generation programme must be based on domestic sources of fuel.at the same time, although India’s primary energy source coal is abundantly available, there is a shortage and stagnation in the country’s crude oil production.Explained largely by the lack of exploration projects to exploit the domestic oil reserves, India is forced to rely on external sources to address its future energy needs.Cosequently,the country is resorting to large-scale oil imports, thereby causing a steep rise in its oil import bill.looking at statistics,India’s oil import bill increased from US\$6.3 billion in 1998–99 to US\$18 billion in 2000–01,and is set to increase to 70% by the end of the decade.13.For years on,a rising oil import deficit is a cause of concern for the Indian economy as it accounts for almost one-half of the country’s trade deficit. Therefore, it is widely suspected that an increase in the oil import deficit will retard the growth prospects of the Indian economy.

Apropos the above,there is a growing interest in changing the pattern of India’s energy consumption. Apart from the above cosiderations,two main factors that provide a viable justification for transforming India’s energy mix for power generation are;the environmental impact and the rising costs of coal-based power generation.More recently, it has been argued that for the high ash content of Indian coal and its effect on carbon dioxide emissions, the use of coal is a matter of environmental concern.(Pandian:2005). Also, although coal is abundantly available in India, there are problems associated with its mining and transportation to distant markets.As a result,this increases the costs of coal-based power generation.Given the high costs of power development projects involving indigenously mined coal, the Indian government is considering alternative energy sources. It has been evaluated that although the imports of low ash content coal from South Africa and Australia is a possible solution,however,its adverse environmental impact could not justify the use of fuel whose power generation cost is similar to that of oil and liquid natural gas (LNG).Pandian(op.cit)writes that “a comparative look at the competitive positions of various energy sources in India’s power generation programme favours a transition from traditional fuels such as coal and oil”.Evaluations of the options available suggest that on the basis of natural gas’ competitive position among various energy sources,it is becoming increasingly apparent that it will be the preferred fuel in future Indian power generation.

Heavy dependence on coal for power generation in India 14 is increasingly losing favour with energy experts and policy makers who advocate its replacement with the use of gas.In future,the most viable option for Indian power generation sector may well be to replace coal and eventually direct the national fuel requirements towards natural gas. Looking at history, natural gas accounted for 7% of primary energy consumption in 1997-98 and estimates show that it is set to increase to 20% by 2025.(for projections upto

2011-12 see Table 2.2).At the same time,it is argued that India’s conventional natural gas resources are limited and unlikely to meet its growing demand.The demand for natural gas is growing at about 260 million cubic meters per day (mmcmd),and is expected to rise to 231 mmcmd by 2006–07 and to 313 mmcmd by 2011–12. ((Mubayi,2003).

Table 2.2 Projected Demand of Natural Gas -India

(MMscmd)	Actual	Projected				
	2005-06 (P)	2007-08	2008-09	2009-10	2010-11	2011-12
Power	32.54	80	88	100	112	125
Fertiliser	21.27	40.82	42.65	52.24	79.36	79.36
City gas	0.21	12.08	12.93	13.83	14.8	15.83
Industrial	10.36	15	16.05	17.17	18.38	19.66
Petrochem/refineries/inter cons	20.22	25.37	27.15	29.05	31.08	33.25
Sponge iron/steel		6	6.42	6.87	7.35	7.86
Total demand for natural gas	84.59	179.27	193.19	219.16	262.96	280.98

[Source:GOI(Government of India) in Singh,A.,(2008),”The Economics of Iran-Pakistan-India Natural Gas Pipeline”,Economic & Political Weekly,57-65]

For one,natural gas is the most preferred option for power generation sector in case of India due to its efficiency and cost effectiveness,hence demand for gas in coming years is expected to increase manifold.(Table;2.3).Looking at the supply side ,the current Indian domestic production of natural gas, mainly through the state-owned Oil & Natural Gas Corporation (ONGC), of only 60 mmcmd, a number that is projected to remain flat for the foreseeable future.It may be argued that although new natural gas reserve finds would be helpful in meeting the rise in demand, they may not be sufficient to replace the gas import option. Thus,it is argued that while a natural gas reserve find in the Krishna-Godavari basin by Reliance-Niko partners has revived a debate on the scope of domestic natural gas reserves in meeting India’s hopes of attaining self-sufficiency in the energy sector, energy experts are divided on the impact of this find on the country’s energy economics.(Pandian:2005).).At the same time, it remains important to highlight that the natural gas reserve find in the Krishna-Godavari block may not be significant enough to review import options.

Table 2.3 Demand for Natural Gas for Power Sector-India

Year	Demand for Natural Gas (BCM)		Demand for Natural Gas (MMscmd)	
	8% pa Growth	9% pa Growth	8% pa Growth	9% pa Growth
	2011-12	19	21	52
2016-17	33	37	90	101
2021-22	52	59	142	162
2026-27	77	87	211	238
2031-32	119	134	326	367

[Source:GOI(Government of India) in Singh,A.,(2008),”The Economics of Iran-Pakistan-India Natural Gas Pipeline”,Economic & Political Weekly,57-65]

Coming to the available options for India, since the capacity of addition through thermal, hydroelectric and nuclear resources is unable to keep pace with the rapidly increasing demand for electricity, India has decided to make natural gas the fuel of choice for future electric power generation projects.Indeed, the country’s consumption of natural gas has risen faster than any other fuel in recent years, from only 0.6 tcf per year in 1995 to a projected 1.8 tcf in 2010.(Singh,2008,also see Table 2.4).

In the wake of India’s policy choice to diversify its sources energy,India has considered various options to import natural gas either through pipelines or as LNG. The leading pipeline proposals, mostly trans-border in nature, include the importation of natural gas through pipelines from Iran, Oman, Qatar, Turkmenistan, Bangladesh and Burma .Among these projects, the Indo-Iran is the most efficient,cost effective over-land import option,as has been studied in detail in the next chapter.

Table 2.4 The Supply Side of Natural Gas in India

Natural Gas Supply (MMscmd)	Actual	Projected				
	2005-06(P)	2007-08	2008-09	2009-10	2010-11	2011-12
ONGC	Prod not avail 68.07	47.28	48.42	45.69	44.67	41.08
Private/joint ventures (as per DGH)	20.16	23.26	61.56	60.28	58.42	57.22
Projected domestic	88.22	70.54	109.98	105.97	103.09	98.3
Additional gas anticipated						
D6 (RIL)	–			20	30	40
GSPC (10 TCF)	–			54	54	54
Total projected domestic supply	88.22 (75)	70.54	109.98	179.97	187.09	192.3
LNG supply (MMTPA)		2007-08	2008-09	2009-10	2010-11	2011-12
Dahej		5	5	7.5	10	10
Hazira (Shell)		2.5	2.5	2.5	2.5	2.5
Dhabol		1.2	2.1	5	5	5
Kochi					2.5	5
Mangalore						1.25
Total LNG supply (MMTPA)		8.7	9.6	15	20	23.75
Total LNG supply (MMscmd)	18.55	30.45	33.6	52.7	70	83.12
Total natural gas supply (domestic and LNG) (MMscmd)	(93.55)	100.99	143.58	232.67	257.09	275.42
Advancement of gas production from Reliance Industries Limited D-6 block						
D6 (RIL) (revised production schedule)	–		40	40	40	40
Updated total natural gas supply (domestic and LNG) (MMscmd)	(93.55)	100.99	183.58	252.67	267.09	275.42

[Source:GOI(Government of India) in Singh,A.,(2008),”The Economics of Iran-Pakistan-India Natural Gas Pipeline”,Economic & Political Weekly,57-65]

Pakistan’s Energy Scenario:

Pakistan’s case is no different from that of India as it also suffers from a growing oil-pool deficit. Pakistan’s power generation is heavily dependent on fuel oil, and it is a

net oil importer with an oil import bill of over US\$1 billion per annum. The country aims to slash its oil imports from the Middle eastern neighbours by one-third in order to save at least US\$1 billion a year in its annual energy import bill.¹⁵ Again like the Indian government's strategy to reduce the fiscal strain on the economy, the Pakistani government has opted for a policy shift in favour of substituting fuel oil with natural gas for power generation. It appears to be a smart option in the sense that it is expected to save an estimated US\$600–700 million per annum. Furthermore, it is estimated that, at current levels of power generation, over 800 mcf per day of additional gas is required to replace fuel oil in all its thermal power plants. Moreover, as Pakistan plans to make natural gas its preferred choice in power generation, its demand for natural gas is expected to rise substantially over the years, creating a large projected natural gas shortfall (See table 2.5)

Table 2.5 Natural Gas Demand Projections (Pakistan)

Figures in MMcfd at 950 btu/scf

Country Demand – Base Case (6.5% GDP)										
	FY07	FY08	FY10	FY11	FY12	FY13	FY14	FY15	FY20	FY25
Residential	563	602	672	708	743	779	816	853	1,047	1,253
Commercial	92	98	111	118	126	135	144	153	210	287
General Industries	620	689	840	909	984	1,065	1,151	1,243	1,796	2,552
Fertilizer	944	1,001	1,107	1,230	1,268	1,306	1,344	1,381	1,661	1,990
Cement	232	242	242	242	242	242	242	362	503	702
CNG	166	179	211	228	247	268	289	313	465	690
Captive Power	143	185	229	254	284	312	345	380	623	1,022
Power	1,253	1,496	1,674	1,826	2,026	1,806	1,974	2,077	2,549	4,763
Total Demand	4,013	4,492	5,086	5,516	5,921	5,912	6,305	6,763	8,854	13,259

Country Demand – Other Cases										
	FY07	FY08	FY10	FY11	FY12	FY13	FY14	FY15	FY20	FY25
Low GDP Growth Rate 5.5%										
Total Demand	3,945	4,392	4,854	5,280	5,726	5,802	6,106	6,559	8,035	10,958
High GDP Growth Rate 7.5%										
Total Demand	4,093	4,600	5,340	5,846	6,289	6,401	6,873	7,418	10,368	16,385

[Source: Government of Pakistan, Ministry of Petroleum, Feasibility Report of IPI]

According to estimates, Pakistan has around 28 trillion cubic feet (Tcf) of proven natural gas reserves. Geographically, the bulk of these reserves are located in the southern half of Pakistan. Figures indicate that in 2004, Pakistan produced and consumed 968 billion cubic feet (Bcf). Moreover, in light of the current onshore exploration activities and resource outlook, the Pakistani government expects minor increases in natural gas production in the short-term. Overall trends show that natural gas production is expected to decline over the next 15-25 year period, while natural gas demand is expected to increase. (the demand-supply balance for natural gas is shown in Table 2.6)

Table 2.6 Natural Gas Supply-Demand Balance(Pakistan)

Country Demand		<i>Figures in MMcfd at 950 btu/scf</i>									
	FY07	FY08	FY10	FY11	FY12	FY13	FY14	FY15	FY20	FY25	
Independent	651	739	801	873	927	846	889	897	908	853	
SNGPL	2,168	2,436	2,846	3,070	3,308	3,310	3,536	3,728	5,105	8,524	
SSGC	1,193	1,317	1,439	1,572	1,686	1,756	1,880	2,137	2,840	3,882	
Total Demand	4,013	4,492	5,086	5,516	5,921	5,912	6,305	6,763	8,854	13,259	

Country Supplies		FY07	FY08	FY10	FY11	FY12	FY13	FY14	FY15	FY20	FY25
Independent	723	916	945	944	922	871	845	831	645	438	
SNGPL	1,773	1,870	1,951	1,917	1,822	1,735	1,572	1,440	567	199	
SSGC	1,170	1,398	1,412	1,356	1,243	1,169	1,012	919	343	80	
Anticipated Discoveries	-	-	-	97	194	290	386	484	966	1,450	
Total Supplies	3,666	4,184	4,308	4,313	4,181	4,065	3,815	3,674	2,521	2,167	

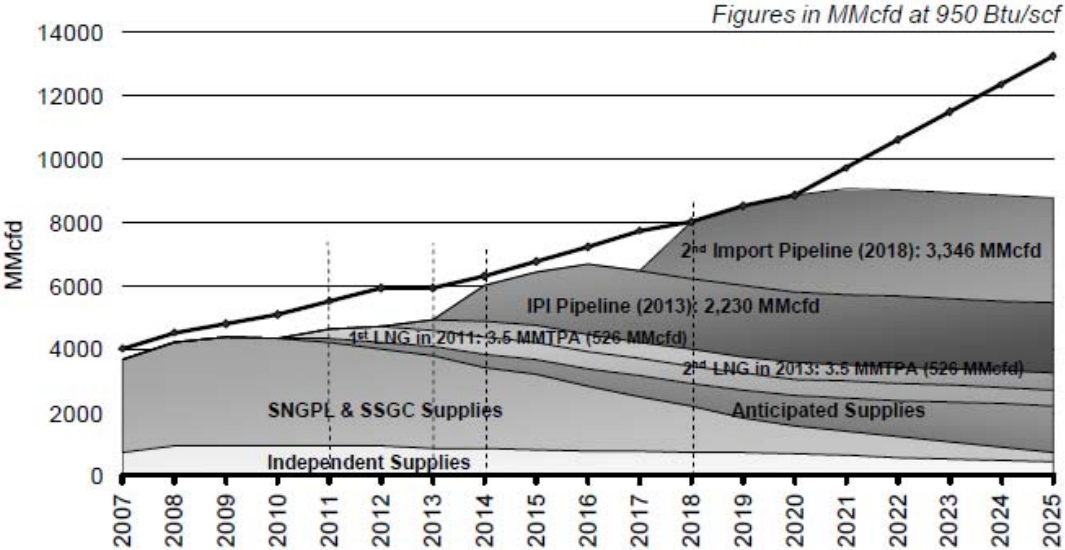
Supply Shortfall		FY07	FY08	FY10	FY11	FY12	FY13	FY14	FY15	FY20	FY25
Supply Surplus/(Shortfall)	(346)	(308)	(778)	(1,203)	(1,740)	(1,847)	(2,490)	(3,089)	(6,333)	(11,092)	

[Source:Government of Pakistan,Ministry of Petroleum,Feasibility Report of IPI]

In order to mitigate huge shortfalls,the Pakistani government is currently developing plans to import additional natural gas.With natural gas currently being the the country's largest energy source, making up 50 percent of Pakistan's energy mix¹⁶,there is urgent need to look for alternate sources,speciall of enhancing imports on priority .(see Figure 2.1 for import options envisaged at policy level).

Coupled with an ever-growing demand for natural gas,is also the desire of Pakistan to exploit the country's geo-strategic location as an advantageous transit country for this and future pipeline projects in the region.(Pandian,2005).However, one view[though highly debateable] is that while Pakistan would like to be a part of regional pipeline projects originating in the Middle East and Central Asia, it is unlikely to exploit its geo-strategic position in the region unless the end destinations of the pipelines are India or China.(Pandian,op.cit.). For one thing,Pakistan is in an advantagous position to become an energy hub or a viable trnsit area of energy pipelines (Ahmad,2006),specially natural gas due to the fact that it already has a fairly well established gas pipeline infrastructure(around 9060 kilometers of high pressure tranmission pipelines and over 225,000 HP of compression capacity

Figure 2.1 Natural Gas Import Strategy(Pakistan)



[Source:Government of Pakistan,Ministry of Petroleum,Feasibility Report of IPI]

In the next chapter,this study has dealt with the economic,geo-polital and energy security considerations of various regional and international actors in order to emphasize the geographical importance of Pakistan and viability of various overland pipeline projects for import of gas with special reference to the proposed IPI.

CHAPTER-3

The Proposed Iran-Pakistan-India(IPI) Gas Pipeline Project

Evolution,Outlay,Projections

As discussed in the preceding chapters, the foreign policies of India and Pakistan are driven increasingly by energy security and are going to continue like that in foreseeable future. To sustain their booming economies and growing populations amid tight oil and gas markets, both Indian and Pakistani policymakers are turning to energy deals with regional and trans-border sources, such as Iran, Qatar, Myanmar, Turkemanistan etc. At the same time, energy-producing states including Iran and Central Asian states are attempting to tap new markets and, at the same time, secure their own interests by locking in demand. (Cohen et.al, 2008).

The proposal for the Iran-Pakistan-India pipeline project was first mooted in 1989 by then Deputy Foreign Minister of Iran Ali Shams Ardekani and the then Director-General of the TATA Energy Research Institute in Delhi Rajendra Pachauri. (Singh, 2008). At the time, the official Indian response was largely negative as the country had poor relations with both Iran and Pakistan. In 1993, Pakistan and Iran announced a plan to build a gas pipeline, which Iran later proposed extending into India. Dubbed the "peace pipeline," the Iran-Pakistan-India (IPI) gas pipeline would traverse over 2,775 kilometers (1,724 miles) from Iran's South Pars gas field in the Persian Gulf through the Pakistani city of Khuzdar, with one branch going on to Karachi and a second branch extending to Multan and then on to India. After considering the feasibility of the pipeline project for 4 years, especially its ability to deliver supplies over the long term, India also showed willingness to join and finally signed a Memorandum of Understanding with Iran in 1993. The Indian decision was also led by the cost-effectiveness of the project, its projected operative life as well as its output as compared to other proposals. (See Table 3.1, although some information is now out-dated, yet there is clearer picture of its viability as shown by the then estimates on cost and output)

Table 3.1 Proposed Gas Pipelines in South Asia

Project	Consortium	Length (km)	Cost (US\$ billion)	Route	Output (billion cubic feet)
Indo–Iran	Undecided	2670	5	Undecided	3.2
Qatar–Pakistan	Crescent Petroleum	1610	4.5–5	Offshore	1.6
Pakistan–Turkmenistan	CentGas	1440	1.7	On-land	1.5–2
Indo–Bangladesh	Unocal (shelved)	1363	1.2	On-land	0.5

Source: S. Pandian, ‘The political economy of trans-Pakistan gas pipeline project: assessing the political and economic risks for India’, *Energy Policy*, Vol 33, No 5, 2005, p 662.

Initially, there were three options available for the IPI gas pipeline project (then viewed as Iran-India gas pipeline among the Indian policy makers); that is, overland, deep sea and shallow sea. For India, more important than the economic cost and technical complexity of this project has been the safety and security of its supply. Initially, India entertained the trans-Pakistan route as its preferred option for the Indo-Iran pipeline project. However, at the time, Pakistani army and intelligence agencies opposed this route. After the Benazir Bhutto government expressed its inability to let the pipeline pass through Pakistani territory, the country’s successive governments did not want to alter the status quo. Pakistan cited a lack of confidence between itself and India as the main reason to not to enter into the project. For instance, after the Pakistan Navy expressed its objections to laying the projected pipeline in the country’s exclusive economic zone, fearing that this would allow the Indian Navy reason to enter Pakistani waters, the government refused to allow a 1995 feasibility study into this option. (Singh, op.cit)

Figure 3.1
Two Proposed Pipelines in South Asia



Map 1 • B 2139 heritage.org

[Source: Cohen, A., et al in “The Proposed Iran-Pakistan-India Gas Pipeline: An Unacceptable Risk to Regional Security” available at <http://www.heritage.org/Research/AsiaandthePacific/bg2139.cfm>]

In the meantime, the country’s Nawaz Sharif government was considering a trans-Turkmenistan–Afghanistan–Pakistan pipeline project to address its energy concerns. Thus, another reason that Pakistan opposed the Indo-Iran trans-Pakistan pipeline project was that the Iranian gas to be supplied to it through this pipeline would be 40% costlier than gas from Turkmenistan. (Pandian, op.cit) As a result of Pakistan’s failure to take a firm political decision in favor of the overland pipeline project, India decided to look for alternative energy route. With Pakistan’s reluctance to provide transit for the Indo-Iran gas pipeline project, Iran was also looking at the possibilities of building the pipeline in deep waters, thereby avoiding Pakistani territory. In the wake of certain developments in underwater pipeline technology which seemed to have made the laying of pipeline at 2000 meters feasible (if still very challenging, mainly due to operational and cost reasons) **17**, India reactivated Iranian interest in underwater pipeline technology. However, it was around this time that Pakistan having realized its increased stakes in the pipeline project opted to join. Moreover, the deep-sea option for an Indo-Iran pipeline would deprive Pakistan of both transit revenues and the opportunity to purchase gas from the pipeline at subsidized rate. As a result, the present Pervez Musharraf government announced that it would permit an Indo-Iran gas pipeline to pass through Pakistani territory.

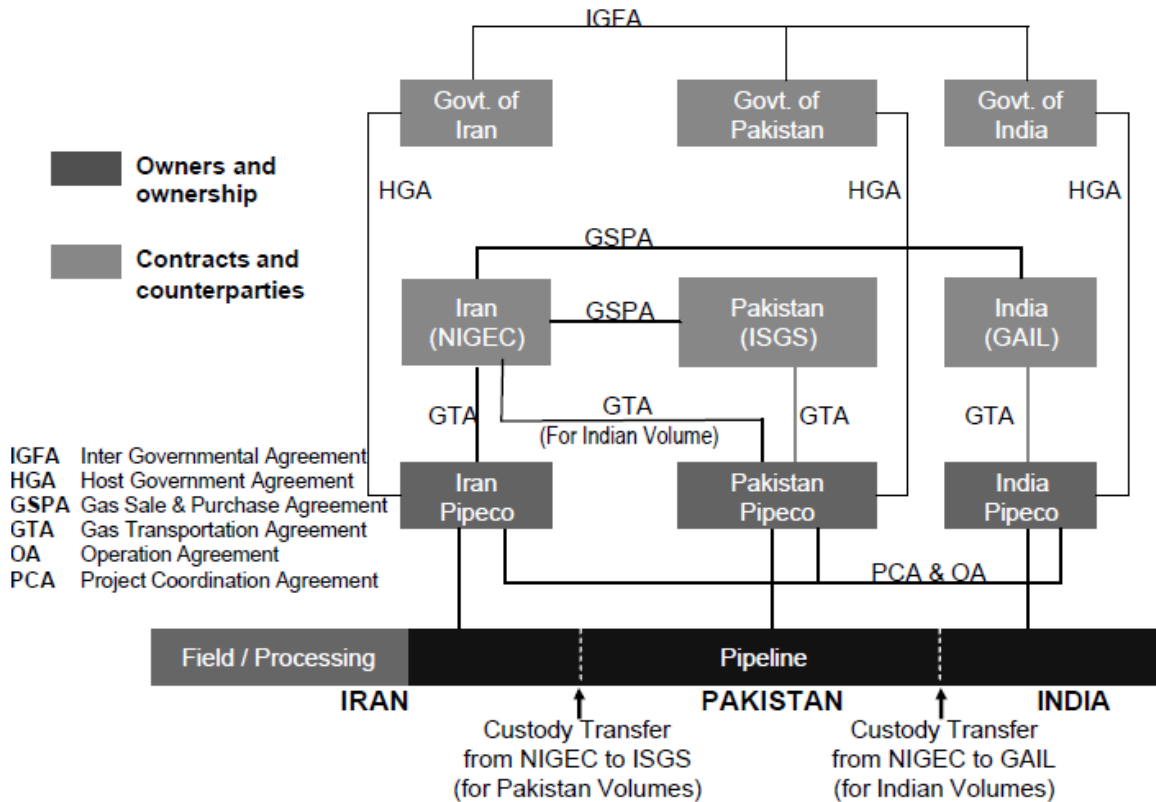
Figure 3.2 IPI Project Roadmap

Activities	Months	2007	2008	2009	2010	2011	2012	2013
1. Selection of Route	3	■						
2. Topographic Survey	12	■	■					
3. Acquisition of ROW	24		■	■	■			
4. Signing of GSPA	4	■						
5. Signing of IGA	9	■	■					
6. Appointment of Lead Investor / Project Sponsor	9	■	■					
7. Incorporation of Pipe Co.	3		■					
8. Signing of HGA/GTA with Pipe Co.	6		■	■				
9. Feasibility Study & FEED	18		■	■	■			
10. Selection of Suppliers and Purchase Order	9			■	■			
11. Financing Arrangements	18			■	■	■		
12. Tender Evaluation & Appointment of EPC Contractor	9			■	■			
13. Approval of Gas Import Tariff Policy	9		■	■				
14. Mobilization and Construction	36				■	■	■	■
15. Testing & Commissioning	6							■
16. First Gas Flow								▲

[Source:Government of Pakistan,Ministry of Petroleum,Feasibility Report of IPI]

Besides, Pakistan also realized that the Indo-Iran pipeline project would have enormous benefits for its economy. Such a pipeline could accrue to Pakistan an income of US\$14 billion in 30 years, including US\$8 billion in transit fees, US\$1 billion in taxes and US\$5 billion in savings.¹⁸ Although the transit fee would not wholly redress Pakistan’s acute foreign debt crisis, it would partly alleviate this problem. Finally,to address the growing natural gas demand, Pakistan is pursuing various natural gas import options, including the importation of LNG and natural gas through pipelines from the leading energy suppliers in the Middle East and Central Asia. The importation of LNG is economically competitive with pipelines only at distances greater than 3000–6000 kilometers. Therefore, the option to import gas via LNG will be more costly, both in terms of investment and delivery costs of imported gas(Singh,op.cit).Given the cost disadvantage of importing the LNG, Pakistan was considering various pipeline projects. Further,there was also a realization that no Pakistan-centric pipeline would be economically feasible, as the demand growth for gas resources is feeble and unsustainable in the long-term. The gas pipeline projects in which Pakistan is interested would not materialise unless the desired destination of the pipelines would be India. Slower demand growth would mean that the Iran–Pakistan and Turkmenistan–Pakistan gas pipeline projects are commercially not viable, as Pakistan could not absorb the imported gas. In this regard, Pakistan has concluded that it would be in its interest to provide on-land transit for the Indo-Iran pipeline project. Such a project, apart from offering an attractive transit fee for the pipeline to pass through its territory, would also offer Pakistan the gas at subsidized rate to fuel its sluggish industrial growth.(Singh,op.cit.)

Figure 3.3 Proposed IPI Project and Contractual Structure



[Source:Government of Pakistan,Ministry of Petroleum,Feasibility Report of IPI]

Considering the potential of IPI in terms of its supply capacity, Iran has about 944 trillion cubic feet (Tcf) technically proven natural gas reserves, with a production potential of 40 Bcfd for the next 50 years Iran produced 9 Bcfd in 2006 to meet its domestic and re-injection requirements, to increase to 15 Bcfd by 2015, leaving a huge exportable gas surplus. The project is being developed to bring gas from the Iranian South Pars gas field in the Persian Gulf through an on-land route to Pakistan and India. A Term sheet was signed between Iran and Pakistan in 2005, for supply of 2.1 Bcfd natural gas, for a period of 30 years. Each country is to build the pipeline in their respective territories. There have been hectic negotiations over gas price, transportation tariff and transit fee etc. and certain things have been finalized over the past two years or so. (Singh,op,cit.).These have been discussed in detail in the Chapter-4 in the context of mutual economic benefits and facilitating factors that encourage both india and Pakistan to join this project.

CHAPTER-4

The IPI Gas Pipeline Project: The Economic Rationale, Facilitating Factors, Challenges & Bottlenecks

Having had a look at the proposed IPI project from the energy security perspective in terms of its capacity to ensure sustainable, cost-effective and efficient inflow of natural gas into India and Pakistan and thus potentially contributing towards a sustained mutual cooperation and engagement thereby reducing the chances of conflict in S.Asia in general and between India and Pakistan in particular, the study in this chapter examines the specific economic gains and incentives for both India and Pakistan that may accrue with participation in and continuity of the project. Besides, there is also an analysis of what factors; local, regional, international, (of economic, geo-political, and international security dimensions) that may facilitate kicking off and continuation of the project as well as pose a threat or challenges to it. The economic rationale covers the cost effectiveness of the natural gas supply and its impact on the overall energy demand and power generation calculus, pricing mechanism, revenues out of transportation tariff and transit fee (specially for Pakistan) and its impact on the overall financial outlook of the economy etc. The challenges and opportunities included issues such as security and sustainability of the project in physical and sustainability terms as well as the role of US, China etc and the impact of the existence of alternative (or rival) projects such as TAP and India-Myanmar Gas-pipeline project etc.

In case of developing economies such as India and Pakistan, as far as production of electricity at affordable, and sustainable, cost is concerned, LNG (Liquefied Natural Gas) is often put forth as a viable solution. Although LNG offers an attractive alternative to the development of coal-fired power plants for a number of reasons, LNG projects are normally associated with a high capital requirement—especially in India, which has inadequate infrastructure and insufficient ports and pipelines to support its importation. It is difficult to achieve large-scale economies in LNG projects as they involve multiple constituents. The complete LNG chain that comprises production wells, liquefaction plants, storage tanks, specialized LNG tankers, port or harbor facilities and jetty and re-gasification plants at the receiving terminals is a very complex and hugely costly transportation mechanism. Also, the investment viability in the LNG importation chain rests on the financial security and the cash flow from the downstream consumers to the upstream participants. Iranian gas delivered via a trans-Pakistan pipeline will be cheaper than the importation of the LNG. Indeed, at the cost of US\$2.20/2.50 mmbtu, the Iranian gas is expected to be cheaper than anything. There are also reports of Iranian gas delivered at the Indian border at the cost of \$1.80 per mmbtu. Moreover, from a cost perspective; a single natural gas pipeline extending from Iran to India overland through Pakistan would be comparatively cheaper. (Singh op.cit)

The second important element in energy security, and in turn, for rapid economic development is sustainability of the cheaper supply of energy resources, that is, natural gas in this case. Iran claims to have 16% of the world's gas reserves, enough to last for 500 years at the present rate of exploitation, and sufficient to supply India's gas demands

for up to 200 years. The trans-Pakistan pipeline project also offers the best value as compared with other pipeline options and/or the importation of LNG from external sources, whether single or multiple. It is also suggested that the piped Iranian gas constituted the most affordable long-term energy supply to India, and save the country an estimated US\$10 billion over 25 years. (Pandian, 2005). Taking only one sector, that is power generation, we see how beneficial it is for India to participate in the IPI and obtain cheaper input for its power generation sector on cost effective and long-term basis. (See Tables 4.1)

Table 4.1 Competitive Position of Various Sources of Energy for Power Generation in India (2002)

Source	Cost of power generation (Indian rupees per kilowatt hour)
Naphtha	4.5–5.0
LNG	3.5–4.0
Imported coal	3.5–4.0
Diesel/fuel oil	3.5–4.0
Domestic coal	3.0–3.5
Domestic gas	1.8–2.5

Source: Jim Goold, *Building Gas Markets in India—Evaluating Investment Risks* (ANZ Investment Bank, 18 April 2002), p 14.

Having looked at the cost effectiveness of natural gas as an efficient source of energy in power generation, it is now possible to gauge the economic impact of using natural gas imported through IPI in power generation in India and Pakistan as shown in Table 4.2 below.

Table 4.2 Economics of power generation using Natural Gas from IPI(India)

Price of JCC (\$/Bbl)	Price of Gas at Iran- Pakistan Border (\$/MMBtu)	Price at India- Pakistan Border# (\$/MMBtu)	Price in India after Custom Duty @5% (\$/MMBtu)	Price Including Transport Charges and Marketing Margin & End* (\$/MMBtu)	Cost of Delivered Gas at Consumer End* (\$/MMBtu)	Variable Cost of Power Generation (Rs/kWh)	Cost of Power Generation (Including Fixed Cost)† (Rs/kWh)	Cost of Delivered Power (Including T&D Cost)## (Rs/kWh)	Cost of Delivered Power (Including T&D Loss)## (Rs/kWh)
40	3.68	4.482	4.71	5.41	6.08	1.83	2.83	3.13	4.17
50	4.32	5.115	5.37	6.07	6.83	2.06	3.06	3.36	4.47
60	4.95	5.748	6.04	6.74	7.58	2.28	3.28	3.58	4.77
70	5.58	6.381	6.70	7.40	8.33	2.51	3.51	3.81	5.07
80	6.06	6.86	7.20	7.90	8.89	2.68	3.68	3.98	5.30

[Source:GOI(Government of India) in Singh,A.,(2008),”The Economics of Iran-Pakistan-India Natural Gas Pipeline”,Economic & Political Weekly,57-65]

Besides ensuring cheaper gas for power generation, industrial (fertilizers) and household consumption sectors, joining the IPI pipeline project could accrue to Pakistan an income of US\$14 billion in 30 years, including US\$8 billion in transit fees, US\$1 billion in taxes and US\$5 billion in savings. Although the transit fee would not wholly redress Pakistan's acute foreign debt crisis, it would partly alleviate this problem. (Singh, op.cit) Moreover the transportation tariff @ 0.55 \$ per MMBTU for a 1035 KM transit of 56" diameter gas pipeline may augur well for the cash and forex crunch Pakistan periodically faces and thus help its balance of payments problem. (Cohen, op.cit)

The pipeline would also have environmental benefits for a heavily coal dependent South Asia. Natural gas is the cleanest fossil fuel releasing less air pollution and greenhouse gases than coal. A steady supply of it to India would help slow the growth in carbon emissions that would otherwise contribute to global warming. (Pandian, op.cit.)

On the other hand, the problems and bottlenecks are also no less numerous. In the portion below, we shall undertake a brief survey of the factors that may potentially inhibit smooth initiation, functioning and sustainability of the IPI project.

The first and foremost has been the US opposition or "barrier politics" towards the project, mainly because of involvement of Iran. The US opposition may be summed up in the words of, a senior State Department official, Steven Mann, who stated that the United States is unequivocally against the deal." The U.S. government supports multiple pipelines from the Caspian region but remains absolutely opposed to pipelines involving Iran." Washington fears the IPI pipeline deal would be a blow to its efforts to isolate Iran. The Bush administration has been trying to pressure both Pakistan and India to back off from the pipeline. This has resulted in the TAPI pipeline being viewed as a U.S.-backed initiative to aid in its isolation of Iran. Until recently, India's participation in IPI was uncertain. In a significant breakthrough, oil ministers of India and Pakistan met on April 25, 2008, in Islamabad (just after the TAPI meeting) to resolve a pricing squabble and clear the way for signing agreements. The President of Iran visited Islamabad and New Delhi the following week for talks on the pipeline. This breakthrough happened despite strong U.S. pressure on India and Pakistan to abandon the project and go for the line through Afghanistan.

The US opposition to Iran stems from its perception that over the long term, pursuing the IPI will increase Iranian influence in South Asia, which could contribute to greater instability in the region, especially if Iran develops a nuclear weapons capability and continues to support international terrorism. Iran continues to flout international pressure to cease its uranium-enrichment efforts and discontinue its nuclear program. It is also perceived by the US that the revenues out of IPI exports will relieve the financial burden on the Iranian economy and help flout UN sanctions for a considerable future as financially, Iran is finding itself increasingly shut out of the international banking system, making it nearly impossible for Iran to secure loans to rebuild its sagging energy infrastructure. (Saez' op.cit)

Within the perspective of the so called “Great Game”, both China and Russia view US as a competitor as far as utilization of regional sources of energy are concerned. (Cohen, op.cit). China views Iran as a strategic source of energy supply for its ever-expanding economy. China also views Iran as an important link in its ambitious plans to develop overland transport routes for Middle Eastern oil, hoping to reduce its dependence on U.S.-dominated sea-lanes. Ever seeking greater energy supplies, China has already expressed interest in the IPI and has even declared that it will gladly buy India's share if India chooses not to participate. This enthusiasm is not surprising given China's considerable investment in its energy, military, and geopolitical relationship with Iran. Similarly, Moscow's strategy is to block all southern or western pipeline export routes that are not under Russian control and to keep Central Asian gas flowing north through the Russian network. Already geographically and commercially well-placed, the Kremlin wants to tighten its grip on its network and expand it, not dilute it with new competition. The core of this network is the old Soviet oil and gas infrastructure that was created specifically to integrate the periphery with the center— Central Asia and Eastern Europe with Russia. The US-India civilian nuclear deal, can also be viewed as a US move aimed at enticing India out of the proposed project. However, it is “insufficient” to realize this objective on a number of accounts:

One. it is not going to solve India's problems in energy sector in the short run, as the deal is to transform into solid benefit in the 12th 5-Year Plan of India and then too, it will cater for Indian demand in power sector on partially. (Singh, op.cit)

Two. it is going to be costly, and would benefit more to the Western based companies (in the nuclear suppliers group) which will sell the nuclear technology to India.

Three, unless there is a similar deal for Pakistan, a close US ally, it will keep India and Pakistan looking to the regional sources of natural gas including Iran. If US continues opposing this quest for cheaper sources of energy for its regional allies like India and Pakistan, it will be beneficial to China which has no problems in dealing with Iran (or Myanmar in the East), and thus defeat its very strategy of isolating Iran as well as denying China access to energy sources of the region (Saez, op.cit)

Finally, there are questions related to physical security and assurance of supply in the future etc. For one thing, the security situation in Baluchistan province of Pakistan is referred to as a major bottleneck in progress of IPI. (Cohen, op.cit). Of particular concern is the 475 miles of pipeline through Baluchistan, one of the poorest and most unstable regions in Pakistan. This remote region is home to separatist tribes that employ private militias that fight over territory and resources—conditions that are hardly conducive to secure energy transportation. Most notably, these tribes claim that they have not received their perceived fair share of the oil and gas wealth and have expressed their deep dissatisfaction with the Pakistani federal government by targeting critical energy infrastructure, such as water pipelines, power lines, and gas installations. For the same reasons, India has also been somewhat cautious about pursuing the pipeline, given its concern that Pakistan could use it as economic leverage against India. For example, Islamabad could threaten to cut off the supply if it is dissatisfied with India's policy regarding Kashmir or some other bilateral issue, much as Russia has repeatedly done in its bilateral relations with Ukraine and a number of other Eastern European states. (Cohen, op.cit)

CHAPTER-5

The Relevance of IPI to the Conflict Between India and Pakistan

This chapter discusses the nature and dynamics of Indo-Pak conflict and tries to examine whether, owing to the role of IPI in maximizing the energy security of India and Pakistan and the potential for mutual economic benefits that accrue therefrom, their participation in the IPI project can bind them into a sustainable engagement leading to conflict resolution or not.

For the purposes of a conceptual framework, India–Pakistan emergent economic and energy security cooperation may be viewed through the prism of international relations theory; specifically, the concepts of relative gains, cumulation, the relationship between economic interdependence and war, common projects (such as IPI) as means of conflict mitigation, and the stability of nuclear deterrence. The first two concepts, and the theorizing based on them, emerged in the evolution of the debate between neorealism and neoliberalism in international relations theory.¹⁹ The neorealist/neoliberal debate led to a focus on what drives states' behaviour. For the India–Pakistan case in this study, what is most important is the debate on absolute versus relative gains, the impact of nuclearisation on relative gains sensitivity and, following from that, how the incentives for behavior towards the other country are affected.

Sridharan (2005) believes that Neorealist holds that states are more sensitive to relative gains than absolute gains in cooperation. That is, even if a cooperative deal were to yield absolute gains to a state, it would still be willing to forgo cooperation if it believed other states, especially if they are potentially threatening, would gain relatively more. Hence, cooperation can be successful only if it does not upset the perceived power balance to which states are sensitive, no matter what absolute gains one can point to as the fruits of cooperation. This does not necessarily mean states are relative gains maximisers. In this theoretical backdrop, it may be interesting to view participation of India and Pakistan in the IPI project in terms of the relative gains that each is going to have out of this engagement. In the light of the relative economic and energy security gains as discussed in the previous chapter, one may conclude that IPI can prove to be a valuable means of conflict resolution between India and Pakistan unless it disrupts the overall balance of power between the two, which is contingent upon genuine geo-strategic of trade considerations and perceptions that have far reaching implications than merely the matters of trade, economic cooperation and participation in a common project.

However, authors such as Matthews (1996) have also argued about the relative gains sensitivity by introducing the concept of cumulation. He defines 'cumulation' as occurring when 'a relative gain in a current round of interaction creates advantages that allow additional gains in future rounds . . .'. When this happens, he argues that relative gains will be more important in states' behavior, whereas when 'a relative gain on a current round produces only absolute gains in that round and does not have implications for the future interactions', relative gains will be less important and absolute gains will be more determinative of states' behaviour. He further points out that this greater sensitivity to relative gains when there are cumulation effects, and more to absolute gains when there are no cumulation effects, applies to both the economic and security spheres. When we look at the potential costs of not joining the IPI by the two countries in terms of huge economic losses due to costlier inputs into growth such as un-affordable and

unsustainable fuel, the relative-gains(of joining IPI) versus potential costs(of not joining IPI) calculus would render continuation of the conflict unfeasible. Hence, the relevance and validity of the IPI project as an institutional mechanism that can potentially bind the two countries into an irreversible relationship of mutual interdependence and cooperation that can lead to conflict resolution between India and Pakistan in the long run.

Moreover, existing arguments **20** about economics and peace in the literature on interdependence, international conflict, and the nexus of these two highlight the notions such as democratic peace, trade interdependence, monetary interdependence, capital interdependence in studying relations between the states. Research appears to substantiate the liberal conviction that trade fosters global peace although the existing understanding of linkages between conflict and international economics is argued to be limited in at least two ways: First, cross-border economic relationships are far broader than just trade. Second, the manner in which economics is said to inhibit conflict behavior is implausible in light of new analytical insights about the causes of war. It may be interesting to look at the role of trade in conflict resolution by studying how interdependence can play a role in states' recourse to military violence. For one, the risk of disrupting economic linkages—particularly access to capital—may occasionally deter minor contests between interdependent states, but such opportunity costs will typically fail to preclude militarized disputes.

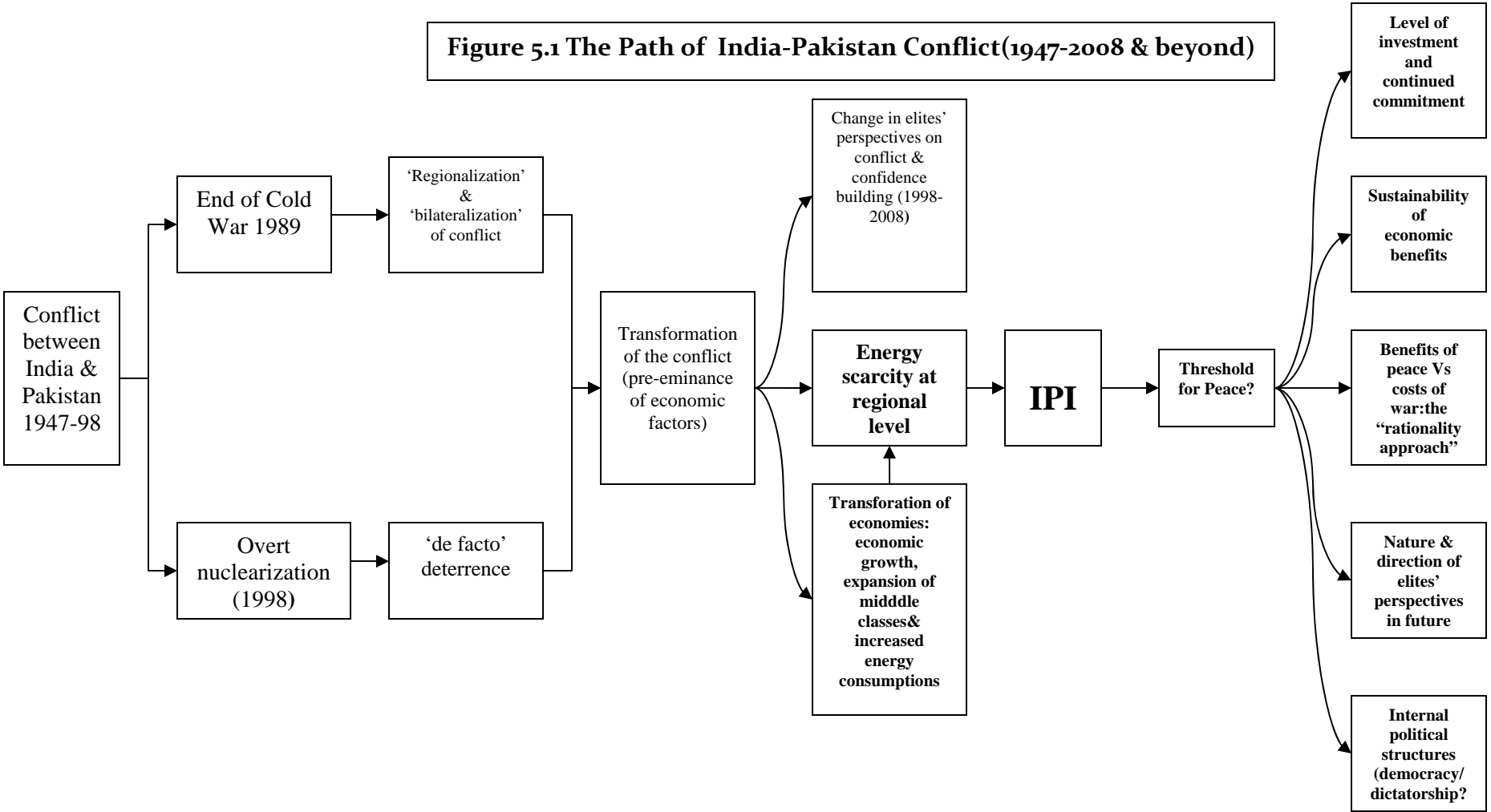
Applying these theoretical assumptions of mutuality of interests, relative gains of mutual cooperation, institutional mechanism to formalize cooperation and engagement (IPI) in case of India and Pakistan, we can draw relevant inferences as to whether joining IPI can help resolve conflict between India and Pakistan or not. However, before that it appears instructive to have a look at the path of conflict between India and Pakistan since 1947 in order to understand the nature, dimensions, costs, phases, transformation etc. of this conflict. (In order to trace major developments in the India-Pakistan conflict in diagram format, **Figure 5.1** can be useful).

India and Pakistan have had a strained political, security and economic relationship ever since they emerged as sovereign nation states after independence and partition in August 1947. Little economic cooperation has taken place, except for one major and lasting treaty on the sharing of river waters, despite some progress in regional economic cooperation in South Asia in the 1990s. In fact, in mid-2000, after the 1998 nuclear tests by both countries and the 1999 border war in Kargil, the India–Pakistan security relationship was possibly worse than at any time in the past, short of the wars that actually took place. The conflict ridden relationship is multidimensional and owes to a number of factors as evidenced by the large varieties of the issues involved. In the following lines, there is a brief background to some of these issues.

1-Kashmir: The first war was fought in 1948. The core issue was a territorial dispute over accession of the princely state. The war was stopped with the intervention of the UN Security Council. The matter remained unresolved and tensions catapulted the countries into another war over territorial control of the region in 1965, The war ended with the Tashkent Agreement.

2- Sir Creek: A territorial dispute over a 60-mile estuary forming the southern border between Gujarat and Sindh led to a war in the region in 1965. At the heart of the issue is

Figure 5.1 The Path of India-Pakistan Conflict(1947-2008 & beyond)



a dispute over the line of demarcation that passes through the waters of the creek with India insisting the line pass through the middle, while Pakistan contending that earlier agreements demarcate the eastern shore of the creek. The countries had been arguing the matter at an arbitration tribunal first in 1968, then in 1992, up until as recently as 2004, with no result.

3- Bangladesh War of Independence: In 1971 Pakistan went to war with its eastern province. Underlying the civil war were issues of exploitative political and economic policies of West Pakistan with regards to the then East Pakistan that had resulted in economic deprivation and marginalization of the East Pakistanis. Indian intervention in the matter led to a war between India and Pakistan. The parties involved signed a peace accord known as the Simla Agreement in 1972.

4- Siachin: A territorial dispute over a glacier 150 miles northwest of Srinagar resulted in an outbreak of conflict that intensified in 1984. The territory is not specifically mentioned in the Simla Agreement. India justifies its claim on the territory arguing that Siachin is a gateway to Ladakh and so part of Indian administered Kashmir. Pakistan disputes this. 1987 saw one of the worst cases of fighting on the glacier. The two countries blame one another for the high altitude deployment (at increasingly exorbitant costs) and have been engaging in cross border fire at the highest battleground in the world.

5- Wullar Barrage Project: A dispute over the water resources dates back to 1985 when India was accused by Pakistan of violating the Indus Water Treaty of 1960 by building a dam on river Jehlum at the mouth of Wullar Lake, the first and one of many water resource disputes between Pakistan and India. The Indus Water Treaty of 1960 was drafted and signed by both to address issues of water resources.²¹ Other water disputes with alleged violations of the treaty are: The Kishanganga hydro-electric Project on river Neelum (Kishanganga); Dul-Hasti hydroelectric project and Sialkot Dam on river Chenab. These water disputes have led to heightened mistrust and instability in bilateral relations and delay in possible solutions to other core problems between the two countries.

6- Kargil: Due to continued tensions over the disputed territory of Kashmir and accusations of alleged cross border infiltration in and around the line of control in Kashmir, in 1999 a war was started in the Kargil region. This war caused an elected government to collapse in Pakistan, a resurgence of extremist right-wing politics in India, and the escalation of a mutually destructive arms race.

7- Baglihar Hydroelectric Project: The dispute arose in 2001 when India began to work on a power project on the Chenab River in Indian administered Kashmir. Pakistan sees this as a violation of the Indus Water Treaty and argues that if built this project would deprive Pakistan of precious water supply. On the other hand, India contends that under the Treaty it is allowed unrestricted use of three Western rivers that are allocated to Pakistan.

History of India and Pakistan shows that conflicts have emerged as a major obstacle to development and a potential threat to achieving the development goals at national, regional and international levels. Both inter-state and intra-state conflicts—wars, insurgencies and separatist movements for regional independence—pose a threat for individual well-being and stability of states. Both India and Pakistan have also indulged in fomenting internal conflicts within each others territories for seeking specific

advantage over each other in the inter-state conflict realm. (HDC, op.cit). It is argued that armed conflicts as temporary shocks to the growth path the country is on, and in case of sustained inter-state conflict, the situation is even worse as all development agenda—especially in sectors like health, education, housing etc—is held hostage to mitigation of security threat from the adversary and thus precious national resources are diverted to arms build-ups and quest for pre-eminence over each other, at the cost of masses.²² In pure economic terms, costs of conflict arise from a worsening macro-economic situation, as resources are diverted to military expenditure, rising transaction costs of business, and falling investment due to uncertainty. While military activity accelerates, the agri-cultural sector and trade are disrupted. (HDC, op.cit).

As discussed earlier in chapter-1, confidence-building and threat reduction measures have a considerable track record in South Asia, and include a number of important successes. The absence of trust, however, remains an obstacle to further progress towards a more stable and less conflictual relationship between India and Pakistan. Participation in the proposed IPI project signifies potential for huge economic benefits as well as the newer trends for peace emerging, and the very agreement on going ahead with it argues that, while Kashmir remains the key to the eventual defusing of tensions, both India and Pakistan can make significant progress, particularly in the economic realm, to create a climate more conducive to peace. (Chari, 2005). Any economic confidence building measure requires the actors to benefit in various ways. The proposed Iran-Pakistan-India pipeline project will have profound economic implications for India and Pakistan. While the project potentially addresses both countries' long-term energy needs, it can significantly improve Pakistan's (and also India's) economic and geo-strategic interests.

Compared to increased trade as a source of reducing tensions, economic cooperation in energy, a key component of infrastructure in both countries, holds more potential in the short term than trade, although it will certainly catalyze trade in the longer run. (Pandian, op.cit). Therefore, cooperation on a gas pipeline will still help to narrow the conflict by removing a major issue area, energy cooperation, from the arena of conflict as the Indus Waters Treaty (at least, at the time of its conclusion) removed river waters as an area of contention. This would narrow the scope of conflict to Kashmir-related issues while simultaneously building cooperation and mutual interests in the key energy sector. Summing up, one can plausibly argue that the narrower the scope of conflict, and the broader and deeper the areas of cooperation, the more likely mutual concessions on the really difficult issues will be reached.

Writers such as Malitza (2000) make a distinction between “distributive bargaining” and “integrative bargaining,” the latter being less a question of mutual concessions as in distribution, but of a search for mutually profitable alternatives. He argues that this approach is particularly suited to the resolution of persistent conflicts based on identity, values and culture. The key is the adoption of an integrative, interaction-generating project, and the stabilization and institutionalization of such interaction, leading ultimately to transcendence of the values that dominated the confrontation. Considering the nature of conflict between India and Pakistan, which is very much based on negative perception of each other arising out of conflicting identities,

values and culture as held tightly by the respective elites, participation in the IPI surely provides a mechanism for such an 'integrative', 'interaction-generating' project. This 'integrative interdependence' would spur trade, perhaps beginning with joint development of gas-based power and fertilizer industries, and may lead to the emergence of groups in each country with an economic stake in trade with the other, and in the context of liberalized economies, regionalism, free trade areas, result in further pre-eminence of economic factors in place of political, geo-strategic and military ones.

Conclusion

India and Pakistan are both confronted with the problem of an increasing shortage of energy, specially natural gas which in the context of demographic expansion and the fuel needs for accelerated, growth-oriented economic development has assumed the status of the most efficient, cost effective and sustainable input for economy in areas such as industrialization, transportation, agriculture and household consumption. However, South Asia has been slow to undertake an integrated approach to regional energy-sector security, cooperation and management. They have the advantage of bordering the Persian Gulf and Central Asia, two of the world's major natural gas rich regions, and this geographical proximity can provide the basis for mutually beneficial economic cooperation between India and Pakistan in energy trade.

Conflict between India and Pakistan has been an obstacle in mutual cooperation between India and Pakistan to exploit cheaper and sustainable sources of natural gas in the nearby regions and countries. In the context of emerging energy security concerns, it is essential that India and Pakistan undertake confidence-building measures (CBMs) capable of locking the parties into an irreversible relationship of peaceful co-existence. Although there have been military CBMs between the two countries, their importance have been undermined as the beneficial effects of such measures have not been readily visible. In this regard, India and Pakistan must search for non-military CBMs as non-military CBMs have often been used to reduce threat perception and build confidence between potential adversaries. This is particularly true in the case of economic CBMs, whose visible effects help countries build confidence and establish mutual trust.

Free trade is often described as the most effective of the economic CBMs but the experience of these two countries in establishing free trade has been far from impressive as Pakistan and India have both resisted becoming economically dependent on the other and, unlike other contiguous countries, their economies have been insulated from each other and despite trade and investment issues occupying an important role in foreign policy issues, the primacy of economic issues in Indo-Pakistan relations has not been realized.

However, contrary to trade in commodities or other items, the energy trade between India and Pakistan is capable of acting as a CBM in their relations and limiting the scope of the conflict. The creation of an irreversible economic interdependence through trade and investment would enhance regional security in South Asia and given the acute shortage of energy, cooperation in energy trade gains more significance, as it has all the potential to lock India and Pakistan into a sustainable economic interdependence. Such an effort would help India and Pakistan to intensify relations in other potential areas of cooperation

Owing to its economic viability and potentially huge mutual economic benefits, the proposed Iran-Pakistan-India (IPI) pipeline project can draw India and Pakistan closer into an energy partnership and break down barriers against commercial engagement between the two nations. A pipeline agreement involving the two countries and protected by Pakistan against any disruptions of energy inflow would bring political as well as economic benefits. Thus, joining the IPI project could be a key to resolving irritants in their political relations and forging and intensifying a new relationship between India and Pakistan that can bring lasting peace and economic development to the entire region.

Notes

1. The combined population of the three major South Asian countries (India, Pakistan, and Bangladesh) is approximately 21.9% of the world's total population and 96.7% of the combined population of South Asia (including Afghanistan). All of these South Asian economies are identified by the World Bank as being "low income" economies. (see also World Bank, "World Development Indicators 2006", at www.worldbank.org, [last accessed on 28 September, 2008])

2. 'Track-II Diplomacy' has been defined and explained as "a specific kind of informal diplomacy, in which non-officials (academic scholars, retired civil and military officials, public figures, and social activists) engage in dialogue, with the aim of conflict resolution, or confidence-building. This sort of diplomacy is especially useful after events which can be interpreted in a number of different ways, both parties recognize this fact, and neither side wants to escalate or involve third parties for fear of the situation spiraling out of control". Moreover, "... although Track-II diplomacy may seem less important than Track-I (the work of actual diplomats at their embassies), it is an extremely vital tool to mitigate escalation of conflict. Indeed, the informal nature of Track-II diplomacy allows serious and potentially dangerous issues to be discussed in an open, non-official forum". [Wikipedia, also see Kaye, Dalia D. (2007), "Talking to the Enemy. Track Two Diplomacy in the Middle East and South Asia". RAND Corporation: Santa Monica, CA.. 5-8.]

3. The term "Composite Dialogue" between India and Pakistan refers to the understanding formalized in what is now called the "6 January 2004 joint statement" by Atal Behari Vajpayee (Indian prime minister) and Gen. Musharraf (president of Pakistan) wherein was laid the ground for the formulation of the subsequent "eight-point agenda" by the foreign secretaries of the two countries in February 2004. The issues that constituted this eight-point 'Composite Dialogue' are: Peace and Security including CBMs, Jammu and Kashmir, Siachen, Sir Creek, Wullar Barrage/Tulbul Navigation Project, Terrorism and Drug Trafficking, Economic and Commercial Cooperation and Promotion of Friendly Exchanges in Various Fields. [For a detailed overview of the progress made on these issues, also see Manjunath, K.S., et al. (2006), "Indo-Pak Composite Dialogue 2004-05: A Profile, IPCS (Institute of Peace and Conflict Studies) Special Report 12, 1-14]

4. Wikipedia. [last accessed on 26 May, 2008]

5. "Milbus" can simply be viewed as "any capital appropriated by soldiers outside the defence budget... these business ventures (controlled by the army or its umbrella organizations) become impediments against the army's withdrawal from politics... in the short run, the businesses can be used to manipulate the political system to help the ruling regime." [See <http://jrahman.wordpress.com/2008/01/02/milbus-and-the-new-godfathers/>. For the original definition and detailed explanation of 'MILBUS' please see Siddiqua, A., (2007) "Military Inc. Inside Pakistan's Military Economy" Pluto Press, 4-8].

6. Richard Boucher, Assistant Secretary of State for South and Central Asian Affairs, Speech at the Paul H. Nitze School for Advanced International Studies, 20 September 2007.[Available at <http://www.state.gov/p/sca/rls/rm/2007/94238.htm>-last accessed on 20 September,2008]
- 7.Statement by Mani Shankar Aiyer,former Indian Petroleum Minister,,"Aiyer Seeks Asian Cooperation in Energy",,"India News Agency,12 June,2005.
8. See "The News,May 10,2008.
- 9.See the Report by Government of Pakistan,Ministry of Petroleum and Natural Resources,available at www.mpnr.gov.pk last accessed on 10 October,2008.
- 10.See,"Concept of Pakistan Emerging as Energy Hub Widely Recognised",Pakistan Economy Daily Update(Karachi:16 March 2006) available at <http://www.defence.pk/forums/economy-development/1049-pakistan-economy-daily-update.html> last accessed on 26 June,2008.
- 11.See the conceptual study on "Korakoram Oil Pipeline:Gawadar to Khunjrab Pass to China" ,available at www.ssgc.com.pk last accessed at 15 October,2008.
12. See Report of the Group on India Hydrocarbons Vision—2025, Volume I (New Delhi: Government of India, 25 February 2000).
13. For more details, see Jaideep Singh and Terisita Schaffer, 'India's Energy Outlook', in ,"South Asia Monitor", Centre for Strategic and International Studies, No 37, 1 September 2001),1–3.
14. Coal contributes approximately 67% of India's energy demands. The energy derived from coal in India is about twice that of energy derived from oil, in contrast to most other countries where coal-derived energy is 30% lower than its oil-driven counterpart. See India (London:, World Energy Council Energy Data Centre, 1999).
15. See 'Pakistan to Slash oil Imports from Gulf by a Third', Alexander's Gas and Oil Connections,Vol.6,No.11,June,2001,available at <http://gasandoil.com/goc/news/ntm12562.html> last accessed on 23 September, 2008.
16. See Pakistan Energy Yearbook, 2005
- 17.See 'Reliance Plans Submarine Gas Pipeline', Power Economics, Vol 4, No 1, January 2000, p 9.
18. See Khaleeq Kiani, 'Slim Prospects of Trans-Pakistan Gas Pipeline', Dawn, 12 April 2001
19. For a detailed discussion on the Neorealist/Neoliberal debate, see Robert Powell, 'Anarchy in International Relations Theory: The Neorealist-Neoliberal Debate', International Organization, Vol 48, No 2, 1994, 313–344.

20. See Erik Gartzke, Quan Li, and Charles Boehmer, (2001), "Investing in the Peace: Economic Interdependence and International Conflict", *International Organization*, 55, 2, 391–438.

21. The Indus Water Treaty, concluded in 1960 under arbitration and economic cooperation of the World Bank, provided for Pakistan right to exclusive use (except for navigation and limited hydal power generation) of the water of the three 'western' rivers (The Indus, Jehlum, Chenab) flowing down from Kashmir into Pakistan, whereas the two "eastern" rivers (Ravi and Sutlej) were given to India. The Treaty has been a subject of debate in recent years in the wake of some hydal projects started and competed by India on western rivers which Pakistan contests.

22. For a detailed impact of conflicts and arms build-ups on economy, see HDC (Human Development Centre), (2006), "Human Development in South Asia 2005; Human Security in South Asia", the Mahbub Ul Haq Human Development Centre, Oxford University Press, 7-47

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