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Pakistan's Energy Security and Regional Alternatives: Case Study of IP and TAPI

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Abstract

The study aims to highlight the problem of energy insecurity in Pakistan. The country has been facing an issue of severe power emergency since a decade and no segment of society is unaffected by this. By stressing the energy blend and the contribution of different energy assets, the study aims to look at different alternatives opted and underline institutional vision of Pakistan to beat the catastrophe of energy. Firstly, diverse native projects initiated by the China-Pakistan Economic Corridor (CPEC) has touched upon and then the study proposes to score the importance of much deferred gas pipeline projects Iran-Pakistan (IP) and Turkmenistan-Afghanistan-Pakistan-India (TAPI) and figure out whether the issue of energy insecurity can be dealt with them or not.

Keywords: Pakistan, Pipelines, Energy Security, IP, CPEC, TAPI

INTRODUCTION

Energy holds the central position behind the advancement of contemporary societies. Energy security, meanwhile for the past many decades not only has been a core issue for developed states for sustainability of their financial growth and to preserve their political influence. Moreover, energy is significant for them to meet their developmental goals. For policy makers in Pakistan, energy security has been a substantial, controversial and a pressing concern where shortage of energy has been considered as a significant variable contributing to the economic growth of state at low pace.

In the last few years, it has observed that a gap is increasing among demand and supply. Nature has blessed the country with considerable assets of energy, its capacity of making energy from gas and oil is one thousand, two hundred and fifty million Tonnes of Oil Equivalent (MTOE), and at the same time the capacity to produce energy from native coal is 1,540 MTOE. (Planning, Development and Reform Ministry 2015)[1]. With the exception of the capacity of conventional energy resources, the renewable energy resources hold potential around one hundred, thousand mega watt Wind can provide four thousand,

[1] Government of Pakistan. *Energy, Pakistan Economic Survey 2015-16*. Ministry of Finance, GoP. *Energy, Pakistan Economic Survey 2014-15*. Ministry of Finance, Government of Pakistan. (2015).

three hundred mega watt and hydro can provide fifty-six thousand, seven hundred and twenty-one mega watt of energy.

Even though having immense capability the government has not been able to utilize its local energy assets mainly because of the disagreements among the centre and provinces with regards to the expansion of water related power projects and to somewhat because of lack of outside investments , joint ventures and the uncooperative law and order situation in the state. As the counter terrorism operations have launched, security situation in comparison to past has improved, in result taking towards economic resurgence. Under such environment, the Corridor between China and Pakistan known as (CPEC), valued 62 billion USD, have been commenced, apart from infrastructure projects covering many energy projects mostly based on renewable assets as wind, solar, hydro, and coal energy projects.

This elucidates the notion of energy security and shows percentage of various assets in energy mix of Pakistan. The following part sheds light on the institutional vision of state by discussing the plan known as Integrated Energy Plan (2009-2022) and the Vision known as Pakistan Vision (2025) in order to deal with country's energy shortage issue. Being a component of this vision, the study in brief expounds the replaceable projects of energy associated with CPEC. The last part sheds light on gas pipeline projects of Turkmenistan-Afghanistan-Pakistan-India (TAPI) and Iran-Pakistan (IP) as likely solution to Pakistan's energy problems.

The Concept of Energy Security

In order to provide the description of energy security there has been various interpretations. In past, energy security was solely conceived as economic problem completely directed by the market dynamics, whereas in the realm of foreign policy, energy security is examined from a security lens associated by the energy politics and management of energy resources(Comolli, 2010)[2]. Energy security, in the globalized and co-dependent world, has become an interdisciplinary subject that has the ability to influence economy of state, its security and foreign policy. The description of Energy security has provided by the Commission of Europe as:

"The ability to make sure that the future energy needs can be met, both by means of sufficient local resources worked under economically acceptable conditions, or keep as strategic reserves and by calling upon accessible and stable outside resources supplemented where appropriate by strategic stocks"(Bahgat, 2005)[3]. Thus, it can be appropriately explained inside the limitation of protection of supply and price. Security of price can be guaranteed via lessening instances of price variation, but it's not easy to attain as costs differs from state to state because of multiple causes, ranging from the crude oil quality, exchange charges, destination, taxes and filtering capability.

In order to keep the oil prices stable the Organization of Oil Producing Countries (OPEC), for years has been playing a vital task to maintain the oil costs even, while no alike means present to deal with gas price. Whereas the security of supply side can be improved by expanding the resources, as if there are more resources available, chances of more stability are there. Few resources dependence can generate weaknesses that can favor the producing states by facilitating them with chances to take much advantage or by the major powers that can control or effect the policies of the producing countries, indirectly.

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[2] Comolli, V. "Energy Security," in *Europe and Global Security-Adelphi Series*. 50 (2010), 414-415.

[3] Bahgat, Gawdat. "Energy Security: The United Arab Emirates." *Asian Affairs* 43, no. 2 (2012): 268-279

There are four dimensions of energy security recognized by International Atomic Energy Agency (IAEA), which are as follows;

- Availableness- geological
- Accessible -geo-political
- Affordable - financial
- Acceptable- eco-system and society(Bahgat, 2012)

Energy Mix of Pakistan

It is essential to examine the state's current energy scenario, before analyzing the regional options Pakistan has to resolve its energy crisis. In order to fulfill its energy demands, Pakistan depends on local and imported petroleum products. The share of gas, among the energy resources is biggest one and is increasing. In the total supply mix of energy, gas contributes about 48.2%. It is noteworthy that the country holds a developed set-up of transmission and distribution of gas, consisting *11,538* kilometers transmission, 1,14982 kilometers distribution and *31,058* services gas pipelines to meet the demand of more than *7.9* million patrons across the state by giving 4 billion cubic feet per day(GoP, 2016)[4].

Because of its increased contribution in the energy consumption, the gap involving the requirement and providence is on rise. The replacement of gas as a cheaper substitute to oil and due to the stagnant gas production resulted in the gap between demand and supply. The current supply is *4,000* MMCFD and the requirement of natural gas is near six thousand, MCFD and estimation is that up to 8,000 MMCFD, its requirement is going to rise. Thus country's reliance on gas, the exhausting gas fields and the discovery of new gas fields at low pace are the factors behind the space exists between demand-supply. In order to lessen the gap on shorter time period, the administration opted such policy in which a gas load is tried to manage that has been limited to Punjab province because of its less participation of five percent in gas providence but huge share of forty-six percent in gas usage (GoP, 2015)[5].

Consequently the policy doesn't provide an enduring solution. The second most widely used energy resource is oil, after gas. Since local oil resources are not able to fulfill the demand in result Pakistan has to trade in the oil and oil-based products. There are two sectors transport and power which consume much oil. Throughout the July-March fiscal year of 2015, *50%* of part was consumed by transportation sector and the allocated percentage was *42*, whereas throughout July-March Fiscal Year 2016, in oil consumption the allocated percentage of transport and power added upto *55* and *35%* correspondingly (GoP, 2016)[6].

During 1980's and 1990's, Pakistan made vigorous oil exploration and development activity but most of these fields couldn't become functional and due to the high political and policy hurdles oil production couldn't gather momentum. After gas and oil, the third widely used source of energy is hydel, in Pakistan's energy mix but it hasn't been compared to its estimated potential as only 11% has been utilized yet. The 1960's and

[4] Ibid 1
[5] Ibid 1
[6] Ibid1

1970's era is considered as a golden phase for energy when Tarbela and Mangla dam were developed as most important hydro power projects, but no further hydro project has been completed in the following years. Currently, Chinese cooperation has also been sought to develop dams under the CPEC.

After Hydel, Coal as a source of energy is widely being used around the globe and contributes approximately 41% to globe's electricity generation. (World Coal Association), When it comes to Pakistan, it holds proven reserves of coal. The estimation is that it holds seventh largest reserves of coal in the globe after the finding of Thar coal. In 1947, after the freedom the input of coal in energy utilization was *60*%, but later it reduced after the discovery of gas. However, in 1996, the base of Thar coal power project at KetiBunder was laid by Benazir Bhutto (1993-996). Currently, the coal constitutes 6% share in energy mix. Lastly, in energy mix the ratio of nuclear energy is about 1.7%. With regards to Nuclear energy, Pakistan always has been subjected to denial of availability of nuclear technology by the western countries but now it intends to enhance the ratio of nuclear energy.

Pakistan's Energy Mix

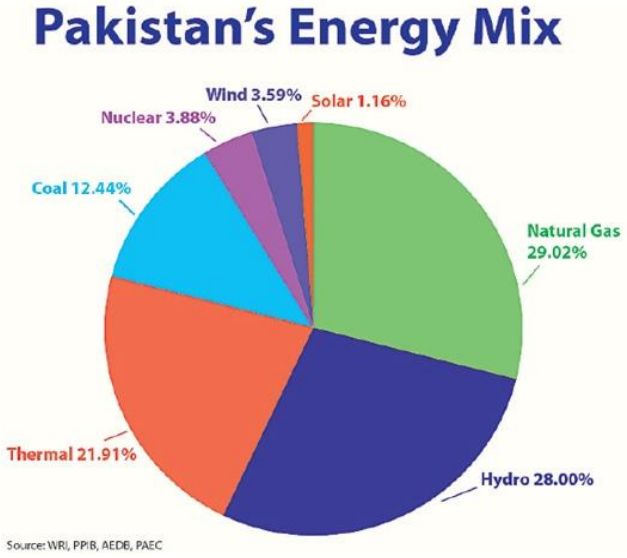

Fig: 1 Source: (Kiani, 2019)[7]

Pakistan's Energy Scenario %

[7] Kiani, K. Energy future hinges on renewable. *DAWN*. (2019, August 23).

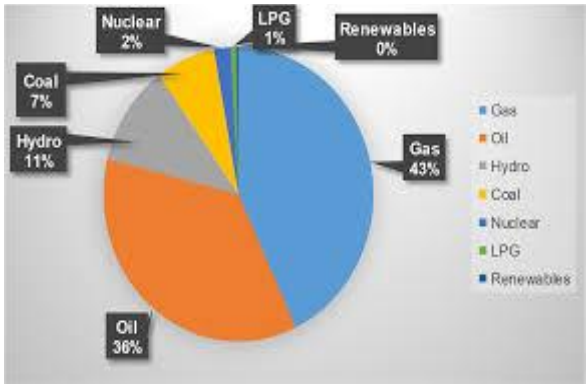

Fig: 2 Source: (NEPRA, 2016)

Pakistan's Institutional Vision of Energy Security

Integrated Energy Plan (2009-2022)

To underline the energy situation it is important to talk about the Institutional vision of Government of Pakistan. The vision comprises the ***"Integrated Energy Plan"(2009-2022)*** and the ***"Vision 2025".*** The initiative of ***"Energy Plan (2009-2022)"*** was devised by the government of Pakistan People's Party (PPP) and the purpose was to restore the state's energy resources. It lays stress on gaining the self-sufficiency by enhancing the usage of local assets and to lessen Pakistan's reliance on the trade in hydro carbons. It shows that inspite of large spread and sharing of gas grid in Pakistan, in the near future the natural gas is going to be the main energy source, consequently country must trade in gas in LNG form or by the means of cross-border gas pipelines. Contrary, it also suggested the lessening dependence on gas to ***28%*** and to lessen the percentage of oil in 2008 from ***30.5%*** and by 2022 to ***20%*** (GoP, 2009)[8].

The share of coal because of its immense accumulation was anticipated to enhance from *9.2%* in the year 2008 and reach to15% by year 2022. The recommendation was to formulate an all-inclusive policy for coal that would support the increase of excavation and support ground work like roads development and incessant water supply. The idea was anticipated by keeping in view the dynamic policies to enhance the percentage of reusable and alternate possessions of energy up to *12%* of the entire energy blend. It recommended to initiating run-of -the-river and small level hydel projects (for instance by 2020 the share of hydel energy must be increased), solar and wind power projects and increasing domestic bio-diesel and ethanol production.

The other factor aside from political and technical grounds is Pakistan's deficiency in constant formulation as well as execution of energy policy. Instead of adopting goal oriented approach, project oriented approach has pursued to deal with energy issues on ad hoc basis. For instance: ***Independent Power Producers*** (IPPs) of 1990 and ***Rental Power Plants (RPPs)*** of 2008. The latter increased the power making capability to and above five thousand *Mega Watts* but the pricey furnace oil caused hike in cost. Whereas, the former because of lack of transparency, caused wastage of public capital and transparency. Thus, the IPP also pointed such problems and proposed few measures to deal with such issues.

[8] Council, Economic Advisory. "Integrated Energy Plan 2009-2022: Report of the Energy Expert Group." *Ministry of Finance, Government of Pakistan, Islamabad* (2009).

Pakistan Vision 2025

The former government of PML-N, highlighted the policy priorities and recognized that sufficient, clean, reliable and availability of energy at economic prices is inevitable to guarantee the viable economic expansion and development (Government of Pakistan, 2014)[9],

Pakistan Vision 2025, document just not highlighted the requirement to invest in energy sector with the help of public-private collaboration in order to fill the bridge between demand and supply, but also stressed to develop a culture of energy conservation and efficiency. Following goals were laid out by Vision 2025 like to lessen electricity demand-supply gap by 2018 which hasn't achieved yet and to generate till 2025, twenty-five thousand mega watt to restore the production of energy blend between coal, gas, oil, hydro, nuclear, wind, solar, bio mass considering localness, economic viability, risk calculation and ecological effect. It emphasized the necessity to complete two significant water related projects: ***Diaer-Bhasha*** and ***Dasu*** dams and stressed the necessity to use the power generation capacity of Thar coal and completion of Gadani Energy park with capability of *6600 MW.*

The text highlighted the need to use country's capability for energy substitutes and completion of the latest nuclear power making plants. It recommends lessening supply competence and reducing losses by spending on spreading and supplying network. Due to technical issues and electricity theft, transmission and distribution losses occur and pose serious challenges. Dealing with this transmission and distribution loss issue can add additional energy to grid and reduce the energy cost too. Moreover, the document also emphasized on doing institutional reforms and enhancing the framework to regulate for making transparency and efficiency better.

The comparison of Vision 2025 and Integrated Energy plan demonstrates that both stressed on the use of renewable energy resources but neither shed light on problems related to implementation process nor there is any sign related to when and how self-sufficiency is going to be attained. The utilization of domestic resources has been impossible due to resource constraints and lack of foreign investments but now scenario has bit changed.

CPEC and Energy projects

As part of Belt and Road initiative China proposed China-Pakistan Economic Corridor (CPEC) in order to link Gwadar in Pakistan to Kashgar in China. The backbone of current energy policy are the energy projects under CPEC. This project provides an opportunity to address the energy sector problems. USD *15.5* billion valued solar, wind, coal and water related projects have been initiated having potential to add up *10,400 MW* of energy to state grid (GoP, 2015)[10].

Coal fired power projects

These projects consist of coal fired projects at Sahiwal (Punjab), port *Qasim (Sindh),* at Gwadar coal /LNG oil power plant, coal fields in Thar (Sindh), HUBCO coal fired power plant, Hub (Balochistan), Quaid-e-Azam Solar Park, Rahimyar Khan coal power plant, Muzaffargarh Coal project (Punjab). Bahwalpur (Punjab). (Ministry of Planning, Development and Reforms)

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[9] GoP. Pakistan 2025: One Nation- One Vision. Ministry of Planning, Development & Reform. Government of Pakistan. (2014).

[10] Ibid1

Wind Energy Power Projects

Wind Energy Projects include 50 MW Dawood Wind Farm at Bhambore, UEP 100 MW Wind Farm at Jhimpir, 50 MW, 50 MW Wind Farm at Sachal and Pakistan Wind Farm at Thatta in province of Sindh.

Hydel Power Projects

Hydro power project named Karot in (AJK and Punjab), Suki Kinari power project (Khyber Pakhtunkhwa), Kohala power project (Azad Kashmir) are hydro power projects.

Furthermore, some line projects are too part of CPEC energy projects like Matiari to Lahore and Mitiari to Faisalabad transmission line and Gadani Power Park.

Pakistan's some of energy issues can be alleviated with the help of energy projects under CPEC, but because of much dependence on large transmission and distribution networks and on gas it's important to look for regional resources to deal with the lingering challenge of energy crisis.

IP and TAPI Gas Pipeline Options and Feasibility

The significance of energy projects under China-Pakistan Economic Corridor is undeniable as they hold utmost importance in utilizing Pakistan's alternate and renewable energy resources, but on the other hand gas pipeline projects of TAPI and IP are seen as potential substitutes that can also play their role in enhancing Pakistan's energy security.

Validation behind Pipeline programs

The end of twentieth century steered in new era of globalization and improved the economic dependence. Because of such new dynamics, the pipeline politics got significance. Despite the fact that pipelines are cost-beneficial, countries were observed hesitant to opt the option of pipeline projects because of the issues like their security and transit costing high. States are linked with Liquefied Natural Gas (LNG) infrastructure, for years in liquefied form, the shipment of gas had been the much suitable means for transportation making nations free from issues associated with pipelines(Dadwal, 2011)[11]. There are Contesting views, with regards to pipeline projects by Proponents and Opponents. Supporters of pipeline projects claim that these are suitable when:

- There is availability of large gas supply near the energy deficient regions.
- Territorially contiguous distances over land are shared by supplier and recipient state.
- No sea access to large suppliers, for instance Central Asian states.
- Apart from energy security, to enhance the political and diplomatic influence of states, pipelines are perceived as means.
- Not agreeing with the view points of supporters, those opposing the pipeline projects present subsequent causes that makes the real materialization of such projects:
    1. Role of transit states as protection of supplies are linked with them.
    2. In contrast to the oil market, gas market is much aggregated thus lacks a permanent global rate.

[11] Dadwal, Shebonti Ray. "Can the South Asian gas pipeline dilemma be resolved through a legal regime?." *Strategic Analysis* 35, no. 5 (2011): 757-769.

3. The absence of official authority to make conform to contractual terms of service thus, provides states in power to manipulate contracting parties, resultantly generates disagreement and conflict.

Case Study of Gas Pipeline Project (IP)

This gas pipeline initiative was firstly two-sided between India and Iran and Pakistan was not in it. Purpose was to facilitate with an overland transit route. The materialization of the project could not happen because of the trust deficit and assurance among New Delhi and Islamabad and the consequent domestic antagonism to be an economic power. During the time period of President General Musharraf in (2002-2007), the project was revived as Islamabad agreed not only to facilitate with route for gas provision but also to trade in gas from Tehran for the purpose of local use. Transit fee and economic opportunities were two benefits projects seemed to offer. Furthermore, the hikes in oil price in global market convinced the administration to use natural gas instead of oil for the purpose of power generation.

India showed apprehensions with regards to the security of supply, so keeping those in view, Iran being a provider contracted to confer India the sovereign rights. Iran not only conformed to New Delhi's insistence of providing same quantity of LNG to New Delhi at the similar rate (in case of any interruption of provisions from Pakistani side) but too guaranteed to Indian demand of disrupting gas providence to Islamabad in consequent of issue alike.

Additionally in order to relieve New Delhi's apprehensions and to make sure the continuous gas supply, Tehran suggested that a three party agreement (India-Iran and Pakistan) backed by global monetary bodies like World Bank (WB) and Asian Development Bank (ADB) as its guarantor. Setting aside apprehensions related to Pakistan there are more reasons which led India to distance itself from the agreement, for instance; Indian disagreement with Iran over the gas price, US opposition to project and as a result India finally withdrew itself from the deal in 2008.

In consequent of New Delhi's denial to link with deal, it changed into Iran-Pakistan gas pipeline and on March 11, 2013 between Islamabad and Tehran a bilateral accord was signed by the former President of Pakistan Asif Ali Zardari and Mahmoud Ahmadinejad the ex- President of Tehran.

Prospects and Challenges

The progress on Iran-Pakistan gas pipeline, have so far delayed due to many complex issues. The most complex thing in the realization has been the problem of Washington's restrictions on Tehran. Sanctions imposed by European Union (EU) and United Nations (UN) were solely related to Iran's nuclear program the list with regards to sanctions is long, as in the result of 1979 Iranian detainees issue US imposed restrictions on Iran, asked to congeal the Tehran's assets within the Washington's authority and imposed more sanctions by labeling it as supporter of terrorism (Laub, 2015)[12].

Through an executive order, many former US presidents put a ban on trade and investment between Washington and Tehran. The precedent was set by President Clinton, followed with few changes by President George, W. Bush, and President Barack Obama administration. In this regard The Iran Sanctions Act (ISA) is significant one, as an extra-territorial set of restrictions. The nature of extra-territorial sanctions on Iran was

[12] Laub, Zachary. "International Sanctions on lran." (2015).

authorization of Washington's President to take steps in opposition to non-business deals in Tehran's energy sector.

The core aim of this ISA was to keep an eye on the deals made in energy sector of Tehran. To check the scope of investment combined with impartial and royalty agreements and any such deal which encouraged the enhancement of Tehran's petroleum assets, involving pipelines through and to Iran (Katzman, 2014)[13]. Regarding to energy pipelines when it comes to the practical implementation of gas pipelines the explanation and the understanding of the word investment was changed many times. It was made clear in March 2012 by the Washington's former state secretary, Hillary Clinton that Obama regime inferred the provision to be implement by the initiation of construction of pipelines.(Katzman, 2014)[14].

Vis-à-Vis the project of gas pipeline between Tehran-Islamabad, Islamabad was cautioned by Richard Holbrooke, the special Representative of Washington for Kabul and Islamabad (2009-10) in opposition to the coming forth US restrictions on Tehran and its negative influence on the pipeline project. So far no restriction has been imposed on any such gas pipeline project of which Tehran is a part. The government of Pakistan, regardless of the risk of restrictions signed the pipeline agreement, in the year 2013 with the government of Tehran, but work couldn't gain momentum because of the reluctance of investors to aid the pipeline project because of sanctions fear.

However, in 2013 when a nuclear deal was signed between Tehran and five permanent members of United Nations Security Council a little sanctions relief was provided but the limitations put by US on trade of energy together with prohibition on any outside deals and technological services to Tehran's energy sector were in effect. Though the nuclear deal among Tehran and P5+1 named as Joint Comprehensive Plan of action (JCPOA), offered Iran a great relief from UN, EU, US sanctions on Tehran's various sectors including financial, energy, automotive shipping and other domains. Many states restarted their oil imports from Iran, the Pakistani government has to set forth a plan to actualize the project. The issue of cost is another one. New Delhi withdrew from project while citing high pricing factor. By viewing gas deals of Tehran, it highlights that Iran has concluded various Memorandum of understandings (MoUs) with various states including Bahrain, Oman, UAE, Syria and Kuwait though not a single one concluded in General Sales Price Agreement (GSPA)(Abbasi, Mehmood, Wasti, Kamal, & Fatima, 2013)[15].

Price disagreement has been the contributing factor in the disruption of negotiations. For instance: In effect of Tehran's deal with UAE, a pipeline was developed in 200, but both states disagreed over cost as Tehran's gas was pricey than Qatar's exported gas. Likewise, Tehran after Russia is the second biggest provider to Istanbul and annually provides ten billion cubic meters of natural gas to Istanbul. Against Iran's high gas prices, in march the National Oil and Gas Company of Istanbul named Botas plead in International Court of

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[13] Katzman, Kenneth. *Iran sanctions*. Washington, DC: Congressional Research Service, 2014.

[14] Ibid13

[15] Abbasi, Arshad H. *Rethinking Pakistan's Energy Equation: Iran-Pakistan Gas Pipeline*. Sustainable Development Policy Institute, 2014

Arbitration. In its judgment the tribunal ordered Tehran to give USD 1.9 billion as reimbursement to Istanbul(Tribune, 2017)[16].

Furthermore, the apprehension is that Tehran has been taking in gas from Turkmenistan at the cost of 4 USD/MMBTU and the supposition is that such cost has not been linked to crude oil, whereas Tehran also proposed to sell gas abroad at 14 USD/MMBTU which is required to intermittent reviews in accord to existing settings of market (Abbasi, Mehmood, Wasti, Kamal, & Fatima, 2013). Pakistan asked Tehran to further the Gas Purchase agreement with the clause of penalty and Iran then not only extended the time limit but lifted the penalty valued *USD 1* million/daily which was payable by Pakistan from the year 2015, January 1st due to holding up the gas pipeline. It is reported that Tehran showed willingness to re-define the gas price.

Except these problems of pricing and sanctions, the geo-political environment of West Asia may hinder or more delay this pipeline project. Islamabad needs to adopt an impartial stance as far as Tehran is concerned, since the project can help Pakistan in securing its energy needs.

TAPI Pipeline Project

TAPI (Turkmenistan- Afghanistan- Pakistan- India) is another gas pipeline initiative. It is supposed to link through a gas pipeline the Central Asian region, rich in mineral resources with South Asian region deficient in energy resources. Initially the project was planned for the provision of gas to Islamabad through Kabul but afterwards New Delhi too become part of it. The suggested pipeline would make its way through Daulatabad to Fazilaka, (New Dehli), via Herat-Helmand-Kandahar (Kabul), and Quetta-Multan (Islamabad). The 214 km section of pipeline comes in Turkmen territory and Turkmenistan initiated its construction (Times, 2016)[17].

In 2013, an agreement related to the gas trade was marked in order to make known the price of Turkmen gas which would be 20% lesser in comparison to the price of Brent crude oil(Times, 2017)[18].

There are certain essentials and pre-conditions which are necessary to be fulfilled before constructing the gas pipeline, these includes to check the technical aspects, to survey the route, to undertake an in-depth study of engineering and feasibility. By keeping in view all this survey and study has to be undertaken by Islamabad. The TAPI project has US support due to supporting its geo-political objectives. Moreover, the project is not recent as it began in 1990. At first, the Washington led association of California and Argentina's Bridas named United Oil Company of California UNOCAL, interested in the pipeline project(Khan, 2011)[19].

Because of the fragile situation of law and order in Kabul the idea couldn't transformed into reality. The Russian factor in late 90's also came into play as Moscow was reinforcing

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[16] Financial Tribune. Turkey to Receive USD 1.9b from Iran over Gas Dispute," (January 25, 2017). https://financialtribune.com/articles/energy/58155/Turkey-to-receive-19bfrom-Iran-over-gas-dispute

[17] Economic Times. Work on TAPI Pipeline to Begin in Pakistan Tomorrow: (2017 March, 2nd). http://economictimes.indiatimes.com/industry/energy/oil-gas/work-ontapi-pipeline-to-begin-in-pakistan-tomorrow-official/articleshow/57429487.cms

[18] Ibid

[19] Khan, R.M. *Afghanistan, and Pakistan: Conflict, Extremism, and Resistance to Modernity.* Oxford University Press. (2011)

its control in Heart land and the Moscow's oil companies Gazprom hold control over reserves of gas thus discarded the proposal of Trans-Afghan pipeline (TAP).

Prospects and Challenges

The project of TAPI gas pipeline holds multiple economic and political benefits for the participant states which can be reaped out in only case of its implementation. It has the capacity to play its role in fulfilling Pakistan's energy requirements by producing around five-six thousand Mega Watt electricity (Husssain, 2013)[20].

Moreover, this pipeline can facilitate the country with another source of energy and lessen Islamabad's reliance on single supply of trade in gas. Similarly, actualization of the project will make both Islamabad and Kabul, able to make profits in form of toll taxes and create job prospects for the people of both countries. For Kabul the project holds viable economic opportunities thus making itself more significant because of the association of various other projects like transmission of power project, a fiber optic project and a rail project will be develop side by side the pipeline route of project.

It has observed that Turkmenistan holds the fourth largest gas reserves in the world after Moscow, Tehran and Qatar. Its landlocked geographical position makes it dependent on Moscow to export its gas. In this case TAPI gas pipeline would help Turkmenistan to expand its supply routes, customer base and profits base (Zulfqar, 2015)[21].

When it comes to challenges the deteriorating security situation of Tehran is the most daunting challenge in the materialization of the project. It not only has created a sense of fear among investors but has questioned the efficiency of Afghan security forces for the security of pipeline route. Though the government in Kabul has assured to increase patrol having around seven thousand personnel to protect the pipeline (Khetran, 2017)[22].

It has been reported in a statement in which Taliban has guaranteed to "not only support each state-run initiatives which are for public welfare , cause the growth and success of the country however assured their protection.(Putz, 2017).

Furthermore, the tussle between Islamabad and New Delhi holds the possibility to effect the project negatively. New Delhi not just left the IP project, however too stepped back from the Myanmar-Bangladesh-India pipeline project that was to make its way through the Arakan state in Myanmar, through the northeastern states of Mizoram and Tripura in New Delhi, prior to crossing into Dhaka and lastly to Kolkata in West Bengal(Dadwal, 2011).

Resultantly, the plan could not achieved because of the diverge view points over the transit rights among Dhaka and New Delhi. As India hold up the project this resulted in Myanmar's exploration of new options to export gas, while diminishing the chances for Myanmar-India gas pipeline within a short time.

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[20] Hussian, N. Diplomacy and International Dimension of Energy Management," in *Solutions for Energy Crisis in Pakistan.* Islamabad Policy Research Institute. (2013).

[21] Zulfqar, S. Materializing the Pipedream. *Daily Times.* (2015 December, 25). dailytimes.com.pk/opinion/25-ec-2015/materialising-the-pipe-dream.

[22] Khetran, M.S. Turkmenistan-Afghanistan-Pakistan-India (TAPI) Gas Pipeline. *Institute of Strategic Studies, Islamabad.* (2017).

CONCLUSION

For the purpose of achieving solidity at political level, financial progress and to uplift the living standards of its population. Pakistan is required effectively deal with the issue of energy insecurity. As the country is facing economic challenges, resultantly become unable to develop the local assets, but now the project of China-Pakistan Economic Corridor, has created prospects to make use of its resources with the help of Beijing's investment on small, average and durable basis. The overall energy scenario of Pakistan compels it to go with the pipeline projects to make situation better by importing natural gas.

Both the projects have the ability to add to Islamabad's energy blend which is important for protract financial growth of country. Besides, providing the better economic opportunities, these projects can facilitate Pakistan to achieve its dream of becoming a center of transit ad trade activities. Both the pipeline ventures have origin to the mid-90s are commercially suitable ventures having possibility to fulfill the growing energy requirements of multiple states, however both have flourished because of the geopolitical oppositions among regional as well as outside states. The relations between Tehran and Washington and restrictions on Tehran out looked the IP project. Except from other reasons, the situation of law and order in Kabul has been the main reason of postponement for TAPI.

Summing up it can be stated that these two pipeline projects can act as a source of tranquility by connecting energy abundant Heart land and West Asian region with energy hungry South Asian region via making countries dependent over each other who may then have reasons to help each other in order to attain regional and intra-regional security and stability.

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