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IMPACT OF THE DEMOLITION OF THE BABRI MOSQUE AND GODHRA POGROM ON MUSLIM VOTING BEHAVIOUR: A COMPARATIVE STUDY OF GUJARAT, UTTAR PRADESH, AND KERALA

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Abstract

Being around fifteen per cent of the total population of India, Indian Muslims constitute a significant minority that cannot be ignored by the political parties in India. Since partition, the Muslims were considered traditional Indian National Congress (INC) constituency, but the failure of the INC to stop the demolition of Babri mosque and Gujarat massacre pushed Muslims to look for other options. In this study, the impact of communal violence on the voting behaviour of Indian Muslims is studied with the help of a comparative study of Muslim voting patterns in Uttar Pradesh, Gujarat, and Kerala. This paper argues that the electoral performance of Muslims and their supported party or coalition has a direct bearing on the communal violence against them. By conducting the comparative study of the electoral behaviour of Muslim voters in these three states, it is observed that the most important factor in this performance is the choices they get in a particular state. The political clout and bargaining position of Muslim voters is much better in a coalition system than in a two-party contest and they can play their cards more successfully if they have their own political party as they have in Kerala. This paper also looks at the role of police in communal violence and its relationship with electoral politics.

Key Words: *Indian Muslims, communal violence, electoral behaviour, Babri Mosque, Gujarat Pogrom.*

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بابری مسجد کے انہدام اور گودھرا کے منظّم قتلِ عام کا بھارتی انتخابات میں مسلمانوں کی ووٹنگ پر اثر: گجرات، اُتر پردیش اور کیرالہ کا تقابلی جائزہ

سعید احمد رِڈ

خلاصہ

بھارت کی کل آبادی کا لگ بھگ ۱۵ فیصد بھارتی مسلمان اقلیت پر مشتمل ہونا ایک اہم امر ہے۔ جس کی وجہ سے انہیں بھارتی سیاسی جماعتوں کی طرف سے نظر انداز نہیں کیا جا سکتا۔ برصغیر کی تقسیم کے بعد سے ہی یہ تاثر پایا جاتا ہے کہ مسلمان روائتی طور پر انڈین نیشنل کانگرس (INC) کے انتخابی حلقوں کے ساتھ وابستہ رہے ہیں۔ لیکن بابری مسجد کو منہدم ہونے سے بچانے میں کانگرس کی ناکامی اور گجرات کے قتلِ عام نے انہیں متبادل کی طرف دھکیل دیا۔

یہ مضمون دعویٰ کرتا ہے کہ مسلمانوں یا ان کی ترجیحی سیاسی پارٹی کی انتخابی کارکردگی اُن کے خلاف فرقہ وارانہ تشدد پر براہِ راست اثر انداز ہوتی ہے۔ ان تین ریاستوں میں مسلمانوں کے انتخابی طرزِ عمل کے موازنے سے ظاہر ہوتا ہے کہ اس میں سب سے اہم امر اُن کو میسر انتخابی اختیار ہے۔ اس مقالے میں مسلمانوں کے سیاسی انتخابی عمل پر فرقہ وارانہ و مذہبی تشدد کے اثرات کا اُتر پردیش، گجرات اور کیرالہ میں تقابلی جائزہ لیا گیا ہے۔

مسلمان ووٹ دہندگان کا سیاسی اثر و رسوخ کثیر الجماعتی اتحادی سیاست میں دو جماعتی سیاست کی نسبت زیادہ بہتر ہوتا ہے اور اس میں اُس وقت مزید بہتری آ جاتی ہے جب مسلمانوں کی اپنی سیاسی پارٹی ہو جیسا کہ کیرالہ میں ہے۔ یہ مقالہ فرقہ وارانہ و مذہبی تشدد میں پولیس کے کردار اور اس کے سیاست پر اثرات کو بھی جائزہ لیتا ہے۔

Introduction

Muslims are the second largest religious community in India. Their population according to the 2011 census was 172.2 million, which makes them 14.23 per cent of the total Indian population.[1] In a democratic polity, the votes of a minority community of this size cannot be easily ignored. Sometimes merely the size of their vote has attracted the Indian National Congress (INC) and other secular political parties towards them and sometimes their name is used to get votes, as the Bharatiya Janata Party (BJP) rose to power by creating Hindutva vote based on anti-Muslim communal sentiment.

The demolition of Babri mosque in Ayodhya in 1992 and post-Godhra carnage in Gujarat in 2002 jolted the whole edifice of the Indian polity and raised several questions on Indian secularism. The blatant use of communal violence as a political tool by the BJP and other Hindu Nationalist parties brought new trends and transformations in Indian politics. It also had a lasting effect on Muslim voting behaviour. Since independence in 1947, Muslims were considered a traditional support base for the INC but the failure of the INC to stop the demolition of Babri mosque and Gujarat massacre convinced many Muslims to change their loyalties and wherever they got a better choice they left the INC and voted for the other parties.

To study the effects of the upsurge of communal violence in Indian polity during 1990s and early 2000s on Indian Muslims' voting behaviour the All-India political scene could have been chosen, but India is such a diverse, heterogeneous, and vast country that every single state of India has its own peculiar political, social, and cultural norms of behaviour, which makes it almost impossible to study the whole of India in one paper. Therefore, to get the real picture, three Indian states of Gujarat, Uttar Pradesh (UP), and Kerala are chosen to study the effects of Ayodhya and Godhra incidents on the electoral behaviour of Muslim voters. The selection of UP and Gujarat was obvious because the Ayodhya and Godhra events took place in these

two states, respectively, and these two states are exposed to Hindutva laboratory since then. However, Kerala is conspicuous by its extraordinary stability and the relative absence of communal violence.

This paper discusses the trends of Muslim voters in the aforementioned three states up to the 2004 general elections in India. Therefore, the census figures of 2001 census are used instead of the more recent 2011 census. Moreover, Indian census 2001 was the only census that had initially provided detailed religion-wise figures of literacy rate and other factors of the human development index, which were taken away when a controversy arose over differences in growth rates among different religions, especially Hindus and Muslims.[2] Luckily, the author had saved the data when it was made available in 2004.

In this paper, first, the impact of communal violence on Muslim voting behaviour in all three states is studied one-by-one and then a comparative analysis of all three states is given to make a sense of the whole phenomenon. This study shows that there is a clear link between the ability of Muslims to make an impact in local politics of the state and the level of communal violence they must face. Muslims are better of in Kerala where they have their own political party in the form of the Indian Union Muslim League (IUML) and they are worst off in Gujarat where they have no choice in a two-way contest of the BJP and the INC.

The impact of Communal Violence on Muslim Voting Behaviour in Uttar Pradesh

UP has remained the centre of communal violence since the first Hindu-Muslim riots took place in Banaras (UP city) in 1809.[3] Since then, UP has witnessed various degrees of communal violence in pre- and post-independence phases. UP Muslims were also at the forefront in the Urdu-Hindi controversy and consequently in the Pakistan Movement during the late 1930s and 1940s. This historical burden still

haunts the UP Muslims. The Hindu nationalists often question their loyalty towards Indian state and hold them responsible for the partition of India in 1947. Even after the independence from the British rule in 1947, communal riots have remained an annual feature in UP.[4] The cities of Moradabad, Aligarh, Meerut, Allahabad, and Azamgarh are well known for communal riots.

The total population of Muslims in UP was 30,740,158 according to 2001 census and they constituted 18.5% of the total population which was five percentage-points larger than their average population in the whole of India. Due to the flight of educated, well-off, and modern Muslim elite of UP to Pakistan at the time of partition, the socio-economic and political profile of Muslims in UP got very poor. The percentage of Muslims in the Indian Administrative Service (IAS) has remained less than half of their percentage in the total population and their presence in the police force constitutes only three per cent of the total police force.[5] The literacy rate of the Muslim population is 47.8 per cent, which is more than 10 percentage points lower than the overall Muslim literacy rate of 59.1 per cent (2001 census).

The electoral politics in UP can be divided into two phases- the phase of the INC domination from 1952 to 1989 and the non-INC phase of coalition governments from 1989 to 1999. After independence from the British rule, Muslims mostly voted for the INC because they considered the INC as the only secular party, which could save them from Hindu extremists. After the rise of coalition governments from 1967, it was believed that Muslims could swing the election results and they were often considered the largest or the second-largest potential voting bloc in UP due to the belief that Muslims could be mobilised to vote en bloc for one party or a candidate.[6]

Therefore, each political party tried to penetrate this solid vote bank to tilt the balance of power in their favour. Since 1967, Muslims

started to have some reservations against the INC and they voted for Janata Party (opposition alliance) in 1977 elections in hope for a change for the better. But in the 1980 elections of Lok Sabha, the Janata Party lost Muslim voters support as they felt that it did not protect the cause of Urdu and did not take adequate steps to amend the Aligarh Muslim University Act. The increased incidence of Hindu-Muslim riots further alienated the Muslims from Janata Party and the frustrated Muslims went back to the INC and voted for it in the 1980 elections. But in the 1984 Lok Sabha elections, the INC showed indifference towards securing the Muslim votes for the first time and openly criticised them as secessionists like Sikhs. The 1984 elections were described as a watershed in Indian politics. Brass wrote, "The 1984 elections showed that there existed a 'Hindu vote' which can be mobilized for the sake of national unity."[7]

The BJP benefited from this religiosity started by Indira Gandhi and continued by Rajiv. It started to push hard for the construction of the Ram Temple by demolishing the Babri mosque in Ayodhya and thus Ayodhya became one of the most important factors for communal mobilisation by the BJP. The INC was caught unawares and had no clue about what to do. In desperation, they tried to appease Muslims as well as Hindus but failed to satisfy any community. After giving way to Muslim demands in the Shah Bano Case, Rajiv Gandhi tried to appease the Hindu sentiment by allowing the Vishnu Hindu Parishad (VHP) to perform the Shilanyas ceremony[8] on 9 November 1989 notwithstanding objections from the Muslim organisations.

Later, the INC tried to appease Muslims again by granting Urdu the status of the second official language in UP just before the 1989 elections. But by then, it was quite late. Muslim leaders asked Muslim voters not to vote for the INC and instead vote for Janata party, an opposition alliance having seat adjustments with the BJP as well. The Muslim support to the INC continued to decline as is evident from the number of Muslim Members of Legislative Assembly (MLAs) winning

on the INC ticket: 32 in 1980, 30 in 1984, and 11 in 1989.

These were the most difficult times for Muslims as communalism was on the rise and they were gradually losing hope in the INC and looking for new options. Therefore, in the 1991 elections again the Shahi Imam of Jamia Masjid appealed to the Muslims for supporting the Janata Dal. In this election, only three Muslim MPs were elected from UP, out of whom two were from the Janata Dal and one was from the INC. During his first rule as the CM of UP (1989-91), Mulayam Singh Yadav did his best to stop the *kar sevaks*[9] from demolishing the Babri mosque and earned a lot of scourge from Hindu nationalists for his pro-Muslim stance.

As a result of 1991 state elections, BJP succeeded in forming a government in UP and Kalyan Singh of BJP replaced Mulayam Singh Yadav as the Chief Minister of UP. Kalyan Singh had declared that the temple would be built as promised by the BJP in place of the Babri mosque and everyone saw on 6 December 1992, when Hindu extremist mob demolished the Babri Mosque, a heavy contingent of police present on spot did nothing to stop them.

After 1989, a big change occurred in UP electoral politics and the INC was completely marginalised in the state politics. A.K. Verma described this situation in the following words:

> Besides the caste fragmentation, the Congress also suffered the communal fragmentation in its vote bank; the Muslims in UP suddenly found a new saviour in the person of Mulayam Singh Yadav (SP) and lent strong support to him. Thus, we find that the electorate in UP initially fractured on the class lines, later on the caste lines, and further on the communal lines. That greatly harmed the Congress, signalling its very sharp decline, and led to the rise of three very prominent and potential political players in the politics of Uttar Pradesh- the BSP, the BJP and the SP.[10]

Thus, the INC lost its traditional support among Muslims and Muslims shifted their loyalty from the INC to the Samajwadi Party (SP) of Mulayam Singh Yadav. Mulayam Singh had already earned the reputation of Maulana Mulayam for his pro-Muslim stance.[11] This image helped the SP to receive Muslim support and Mulayam Singh reached the CM seat thrice with the help of Muslim vote and his strong base in Other Backward Classes (OBCs),[12] especially the Yadav community, in 1989, 1993, and 2003. Mulayam Singh had appointed three Muslim ministers and a good number of state ministers in his 2003 cabinet.

Muslim support for Yadav's party, the SP, is evident from its share of votes among Muslims (see Table.1). Only in 1999 Lok Sabha elections, Muslims voted for the INC in greater number than for the SP, i.e., 43.8 per cent for the INC and 34.5 per cent for the SP. But then in the 2002 Vidhan Sabha elections, Muslims voted 51.2 per cent for the SP. Thus, Muslim support for Mulayam Singh had remained very consistent. This trend continued in 2004 elections where Muslims voted 62 per cent for SP and Rashtriya Lok Dal (RLD) alliance.

Learning from the SP, Mayawati's Bahujan Samaj Party (BSP) also renounced her concept of Bahujan Samaj and accepting the concept of Sarvajan Samaj to open up the party for upper castes and Muslims.[13] Hence, BSP also started competing for the Muslim vote and its position improved by 2002 Vidhan Sabha elections. Later, when Mulayam Singh had joined hands with Kalyan Singh, the main culprit behind the demolition of the Babri mosque, in the wake of the 2009 Lok Sabha election, Muslims shifted their vote in the favour of BSP and since then BSP became the other major contender for the Muslim votes in UP.[14]

Table.1

Muslim Votes in Lok Sabha and Vidhan Sabha Elections in UP

Party	Lok Sabha 1996	Vidhan Sabha 1996	Lok Sabha 1998	Lok Sabha 1999	Vidhan Sabha 2002
BJP	4.0%	1.9%	6.3%	7.2%	2.4%
SP	54.3%	47.0%	71.0%	34.5%	51.2%
BSP	6.0%	12%	7.3%	7.2%	11%
INC	9.0%	12.5%	7.9%	43.8%	9.4%

Source: Mujibur Rahman, 'Muslim Politics in India and the 15th General Elections', In Ajay K. Mishra (ed.) Emerging Trends in Indian Politics: The Fifteenth General Election, (New Delhi: Routledge, 2010).

The important fact to be noted is that the BJP; the exponent of communal discord, gradually started losing its support base in UP in every election after the demolition of Babri mosque at Ayodhya. In 1991, the BJP got 221 Vidhan Sabha seats but its share declined ever since, 177 in 1993, 157 in 1996, and 88 in 2002. This shows that despite Ayodhya being part of UP and UP Muslims carrying a historical burden of the Pakistan Movement, the UP Muslims were able to make their presence felt and were taken seriously of by the political parties like SP of Mulayam Singh and BSP of Mayawati.

The Impact of Communal Violence on Muslim Voting Behaviour in Gujarat

Gujarat had 4,592,854 Muslims according to the 2001 census and they constituted 9.1 per cent of the total population. It means the Muslim population in Gujarat is around 5 percentage points less than the average Muslim population in India. This means that in electoral terms the Muslims in Gujarat are not in a good position to make a meaningful impact. Interestingly, however, in Gujarat, the literacy rate of the Muslim population is quite high at 73.5 per cent and female literacy 63.5 per cent (census 2001). Gujarati Muslims, Bohras and

Khojas, are largely urbanised, skilled community, land-owning, petty shop-owners, and owners of small businesses, and doing blue collar jobs in cities and towns.[15] This was perhaps why they became an easy target of extremists.

In Gujarat elections too, historically the INC dominated till 1989 but gradually the BJP replaced the INC and since 1995, Gujarat is considered a bastion of BJP. In Gujarat, Muslims have mostly voted for the INC as they have no other choice in the two-party system. Overall the BJP had undergone some changes in its policies after coming into power at the centre in the late 1990s, considering the requirements of electoral politics. But in Gujarat not only have they stuck to their Hindutva ideology but have also behaved in an aggressive manner.

Politically, Gujarat has always remained highly conservative or right of the centre. The freedom movement against the British rule was also confined to the typical middle class of higher and intermediate classes and could not penetrate much into lower caste and poor strata. Sardar Patel the main INC leader from Gujarat before partition was not a progressive leader, he always used to target communists as enemies of the freedom movement. Before partition, Ahmedabad was the centre of Muslim League activities and League used to win all Muslim seats in Ahmedabad. Ahmedabad, Nadiad, Godhra, and a few other towns had witnessed Hindu-Muslim riots even before independence. Thus, Ahmedabad and Godhra had a strong communal background. The state was also directly impacted by the partition riots when a large number of Hindu refugees fled to Gujarat from Sindh and settled in Gujarat providing a fertile ground first for Jana Sangh and then the BJP.

At the time of independence, the INC was virtually the only party in the areas of Gujarat (then a part of the Bombay state), the Hindu Mahasabha and the Communist Party of India (CPI) being only the marginal parties. The Rashtriya Swayamsevak Sangh (RSS) was also active in many cities and towns. Soon after the independence, the

Socialist Party came out of the INC but could not get a toehold in the presence of conservative and rightist leadership of Sardar Patel. The split of the INC by Indira Gandhi in 1969 was accompanied by the first major Hindu-Muslim riots in Ahmedabad and in some other towns. According to Girish Patel, many features of the post-Godhra communal holocaust began to emerge in the 1969 riots.[16]

This explains that the phenomenal growth of BJP in Gujarat in the late eighties was not abrupt as often misperceived. But the fact is that Jana Sangh (the precursor of BJP before 1980) and the RSS had been making headway in Gujarat politics since the state's birth on 1 May 1960 and played a leading role in the 1969 communal riots, which shook the whole country.[17] Jana Sangh and RSS were instrumental in the movement against Chiman Bhai Patel's ministry in 1974. They forced Indra Gandhi to dissolve the Gujarat Assembly and later on Babubhai J. Patel of the INC (syndicate) with the cooperation of Jana Sangh and other opposition parties formed a weak government in 1975.[18]

Muslims in Gujarat had played a silent spectator's role until the INC(I) Chief Minister Madhavsingh Solanki, considering the socio-economic structure of Gujarat, rightly evolved the KHAM, the alliance of Kshatriyas, Harijans, Adivasis, and Muslims (KHAM), consisting of about two-thirds of the Gujarat population.[19] The success of this multi-caste and communal electoral alliance KHAM has been a record in 1985 Gujarat assembly elections. Even BJP has failed to achieve the same level of success in its heydays. This challenged the hitherto enjoyed hegemony of the upper castes in Gujarat politics and Solanki announced reservation for Kshatriya, Harijans (now called Dalits), Adivasis and Muslims and won their overwhelming support. When he tried to increase the reservation for Other Backward Classes (OBCs) from 10 per cent to 27 per cent, the violent agitation was launched by the Hindu extremists, which forced Rajiv Gandhi to secure the resignation of Solanki and install Amarsingh Chaudhry as the CM to

appease the dominant middle-class Hindus in July 1985.[20]

The 1985 communal riots in Ahmedabad were major riots after 1969, which lasted for one-and-a-half year. The fall of the Solanki Government broke the back of the INC in Gujarat for good. In the late 1980s and 1990s, the BJP succeeded in making inroads in the KHAM vote bank by mobilising the various castes around the issue of Hindutva. KHAM theory was over, and Muslims again found themselves confused in the Hindu caste conflicts. They were losing faith in the INC but not having much space in Chimanbhai's party and unable to join BJP, they were confused. They felt completely isolated and were left with no choice whatsoever.

From here on, Gujarat gradually moved towards the Hindutva ideology of the BJP. Then came Advani's 'Rath Yatra' starting from Somanath in Gujarat in 1989 and passing through large areas of Gujarat leaving behind a long trail of communal tension and violence in many parts of Gujarat. After the overwhelming success of BJP in 1991 Lok Sabha elections from Gujarat, it was confirmed that Gujarat was overtaken by the BJP and it was just a matter of time that BJP would rule Gujarat. After the demolition of Babri mosque on 6 December 1992, Gujarat was also caught in the communal frenzy. It is said that Gujarat had sent the largest contingent of Karsevaks to Ayodhya.[21] Finally, after the 1995 Vidhan Sabha elections, the BJP came into power in Gujarat with its pure Hindu agenda and its leader Keshubhai Patel became the Chief Minister of Gujarat. BJP won comfortably in 1998 Vidhan Sabha polls and Keshubhai Patel continued as the Chief Minister. All Lok Sabha polls in 1996, 1998, and 1999 were dominated by the BJP in Gujarat.

In 1996 Lok Sabha elections, Muslims were so much confused that they could not make a unanimous or collective strategy regarding who to vote for. In Ahmedabad, the only Muslim candidate of the INC was defeated because of the apathy of the Muslim voters, as the Ahmedabad Muslims did not approve the INC. However, Godhra

Muslims voted in unison for Shantibhai Patel of the INC because he enjoyed their trust.[22] Another very interesting fact of this election was the 33.3 per cent voting of Muslims for Hindu nationalist BJP, according to the poll survey conducted by the Centre for the Study of Developing Societies (CSDS), New Delhi.[23]

By the year 2002, however, the BJP was slowly losing election after election in Gujarat as communal violence had receded—Panchayat, Zilla Parishad and Municipal—in all elections the INC was winning. Keshubhai, the BJP leader in Gujarat was simply clueless, therefore, the central command in Delhi decided to replace him with the RSS favourite man, Narendra Modi to consolidate the Hindu votes. The burning of S-6 compartment of Sabarmati Express on 27 February 2002 and the death of 58 *kar sevaks* provided Modi with an ideal opportunity to play his game of communal frenzy. The RSS message to the Muslims in Gujarat was, "Muslim minority can live in India only if they can win the goodwill of the Hindu majority."[24] Which meant that after the burning of Coach S-6 of the Sabarmati Express at Godhra, Muslims had lost "the goodwill of the Hindu community" and therefore they must pay the price for it and what followed Godhra is a part of the history now.[25]

The BJP had openly blamed Muslims for the Godhra event, later on, however, the court gave its verdict that Godhra event was an accident. Human Rights Watch described the post-Godhra carnage as "the greatest human rights crisis in a decade" and an act of "ethnic cleansing" in its second report published in July 2003.[26] Before, this in April 2002, Human Rights Watch had released a 75-page first report. The report, based on investigations conducted in Ahmedabad in March 2002, revealed that the violence against Muslims was planned well in advance of the Godhra massacre and with extensive state participation and support. The report had claimed that the State officials of the BJP were directly involved in the attacks.[27]

Modi dissolved the Vidhan Sabha on 7 July 2002 and sought to advance the poll to take advantage of the communally polarised environment. Court intervened but finally, polls were allowed to be held on 12 December 2002. Modi emerged as the 'master divider and campaigner', launched a series of Gaurav Yatras all across the Gujarat state and talked of *Asmita* of Gujrat (the identity of Gujarat) and pride of Gujarat. He personalised and communalised the elections very successfully and won a two-thirds majority in the Vidhan Sabha. Muslims voted 69 per cent for the INC and 10 per cent for the BJP (CSDS Pre-Poll survey). At some places, Muslims voted for the BJP, due to fear of and gratitude to their Hindu saviours during the violence. This trend continued in 2004 Lok Sabha polls too, as Gujarat is continuously dominated by the Hindutva politics of the BJP.

Muslim Voting Behaviour in Kerala

Kerala has 7,863,842 Muslims (2001 census) and they constitute 24.7 per cent of the total population of Kerala. Kerala has the highest literacy rate among Indian states and literacy in Muslims is also very high at 89.4 per cent and female literacy is 85.5 per cent. As far as communalism in India is concerned, Kerala is unique among the other parts of India, as it has remained a model of stability throughout the troubled decade of the 1990s and despite all the attempts, the BJP has failed to enter as a major force in Kerala politics. Since the early 1980s, Kerala's political scene has been dominated by a bipolar multi-party alliance of the United Democratic Front (UDF) led by the INC and the Left Democratic Alliance (LDF) led by the Communist Party of India (Marxist) (CPI-M). They have alternated the power between them leaving no vacuum for the emergence of a third force.

Kerala is generally thought to be free of communal violence, however, occasionally it has also experienced a frenzy and bouts of communal violence. Nonetheless, it is generally brought under control, as the Kerala government usually does not allow things to go

out of hand. More importantly, Kerala is the only state in India where Muslims have their own political party, the Indian Union Muslim League (IUML) to represent their interests.

The unique history of Kerala is responsible for these exceptional trends in contemporary Kerala politics. Kerala had a very early tradition of a campaign against untouchability. In 1924, the Satyagraha campaign against untouchability was successfully launched and the left was very strong in Kerala even before the independence in 1947.[28] A group of nationalist Muslims also emerged within the INC during the 1930s under the dynamic leadership of Muhammad Abdur Rahman. The leadership of the INC itself eventually passed into the hands of the INC Socialists and the nationalist Muslims who made common cause against the Gandhian group known as the Right Wing.

The 1930s, which saw the rise of Communist radicalism, also saw the rise of Muslim communalism as a force in Malabar politics. The initiative in building up the Muslim League came from the Muslim leaders of North Malabar led by the highly revered K.M. Seethi Sahib.[29] It means the roots of the contemporary political culture of Kerala were laid in the pre-independence period and the political system in Kerala continued evolving in the post-independence period until the 1980s when it got a good degree of stability. Gopa Kumar wrote:

> In the course of this history, Kerala foreshadowed many political developments in the rest of India: the rise of backward communities to positions of political power, subtle caste-community affiliations with political parties, formation of multi-party coalitions, and the emergence of state as the effective area of political choice. Kerala went through two decades of social upheaval and political instability, the kind that one witnesses in UP and Bihar today, before these patterns stabilized. But once they did, a stable configuration of power and a well-established

> structure of political competition emerged that explains the unique political trajectory thereafter.[30]

In Kerala, the Hindus constitute 56.2 per cent, the Muslims 24.7 per cent, and Christians 19 per cent (2001 census) of the state's total population. The Muslims have a powerful presence in the Malabar region, particularly in Malappuram, Calicut, Kannur, and Kasargode. The communal and caste divisions in Kerala are quite different from the other regions of India and contrary to the general impression Kerala has a well-established and intricate pattern of caste-community voting. The traditional four-fold division of society is not applicable to Kerala. Numerous sub-castes have grown around the major castes. Prominent castes among Hindus like the Nairs and Ezhavas do not fit into the traditional caste division.[31] Ezhavas constitute 22 per cent and Nairs 15 per cent, scheduled castes and scheduled tribes around 9 per cent, but Brahmins only 2 per cent and Kashtriyas are only a microscopic minority here. This is perhaps also one reason behind the failure of the BJP in Kerala, as traditional vote bank of BJP is missing and caste divisions are quite different.[32]

Historically, the majority of Muslims and Christians have tended to favour their religious parties. Christians vote for the INC factions led by Christian leaders and Muslim League has exercised effective control over the Muslim vote bank. In Kerala, Muslims have proved their ability to organise themselves politically as one group and by functioning as a balancing political and communal force, the League has registered a spectacular growth. The emergence of coalition politics offered a chance to the League to play its cards successfully and create more political leverage.

Mostly League has been a part of the INC-led coalitions but before 1980 when two coalitions UDF and LDF were not formalised, League did not hesitate in joining the communist-led coalitions for political gains. Becoming a part of CPI(M)-led coalition in 1967 ensured the formation of the Malappuram District and establishment of the University of Calicut. Muslim League got its first jolt in 1975 when one

of its sections split to form the All India Muslim League (AIML) but the Indian Union Muslim League (IUML) remained the most influential. The AIML remained in office in the CPI(M)-led Ministry of 1980. But later, the official policy adopted by the CPI(M) towards the Shariat Laws compelled the AIML to leave the Left Democratic Front and merge into IUML in 1986.

The demolition of the Babri mosque and the rise of communalism and Hindutva had its effect on Kerala politics as well. It came as a first major threat to the bi-polar coalition system. The emergence of the BJP as an electoral force since the 1984 Lok Sabha election, penetrating the traditional vote banks of the INC and the CPI(M), had upset the conventional parameters of bipolar politics. In this case, the 1996 elections were a real test case for the bipolarity. The INC was suffering from internal factionalism between three groups led by K. Karunakaran, Antony, and Karthikeyan. CPI(M) expelled veteran Gowri Amma who formed a new party JSS, which was expected to wean away some traditional Marxist votes.

However, the real threat came to the Indian Union Muslim League (IUML) as it was in an alliance with the INC and generally at that time Muslims adopted an anti-INC attitude due to the failure of Narasimha Rao government in stopping the demolition of the Babri mosque. The militant posture of People's Democratic Party (PDP) led by Abdul Nasir Madhani and split of the Indian National League (INL) from IUML caused serious concern in the League and the INC that Muslim vote would be divided. However, just before the elections, the INL reconciled with the IUML.[33] The results of the 1996 elections reconfirmed the bipolar coalition politics of Kerala. In Assembly elections vote share of UDF and LDF was almost equal, but LDF bagged a comfortable majority of 21 seats over the UDF, whereas the two coalitions equally shared 10 seats a piece in the Lok Sabha. The IUML was successful in retaining its premier position among Muslim masses as it won 13 Assembly seats, whereas the INL and PDP failed to

get a single seat. Muslims voted 61.2 per cent for the UDF, 32.7 per cent for the LDF and 6.1 per cent for the others (CSDS poll survey).

In the 2001 Vidhan Sabha elections, UDF staged a strong comeback and won 99 seats as compared to 40 seats won by the LDF and in vote percentage, they gained an almost 6-percentage point difference. The performance of IUML also improved as it bagged 17 seats and 7.59 per cent of the total votes cast. Muslim OBCs voted 64 per cent for the UDF and 33 per cent for the LDF and other Muslims voted 72 per cent for the UDF and 27 per cent for the LDF (CSDS poll survey). The bipolar coalition has successfully survived in Kerala throughout all these years and there seems to be no vacuum for the Hindutva politics of the BJP and RSS in the state of Kerala.

A Comparative Analysis of Muslim Voting Behaviour in UP, Gujarat, and Kerala

When we compare the plight of Muslim masses and their voting behaviour in UP, Gujarat, and Kerala, we find out that where Muslims have got more political options they are better off than the places where they have limited or no option. In most of the cases, more political options lead to a coalition government and in a coalition government a minority can assert itself in a better way because it normally holds the balance and Muslims being the second largest religious community in India can take the advantage of this situation as they do in Kerala and to some extent in UP as well.

Muslims are in the worst condition in Gujarat because they have almost no choice there in the two-party contest of the BJP and the INC. Here no choice also means that the INC takes their vote for granted and does little to appease Muslims except giving some empty slogans. Muslims are in a good position in Kerala where they have their own representative party in Muslim League and they are also welcome in the Leftist parties as well as in the INC factions in Kerala. And they are relatively in a better position in UP as compared to Gujarat because

here they can choose among the SP of Mulayam Singh, the BSP of Mayawati, and the INC. It is a general phenomenon that political parties take care of their voters more if they fear voters can change their loyalties, however, when they know that the voters have no choice, they pay little attention. Just take the example of the US elections; swing states like Ohio, Florida, and Pennsylvania are always given much more attention by the Presidential candidates in the US elections as compared to the states like California, which have fixed loyalties with Democrat candidates.

Filmmaker Rakesh Sharma in one scene of his documentary on Gujarat massacre named *Final Solution* interviewed a small boy of two to three years age, who was a witness to the killings of his family members by the Hindu extremists. In the final scene of the documentary, Rakesh Sharma asked the boy about his ambition in life. The boy replied, "the police officer." He asked the boy why police officer. The boy replied, "I will kill the Hindus by becoming the police officer." This reflects how that small boy observed the role of the police. The role of the police in communal violence had been a decisive factor in the number of deaths and injuries. It is confirmed by reports of the Human Rights Watch and independent research conducted by various journalists and organisations that police if not assisted at least played the role of a silent spectator during the communal violence after the demolition of the Babri mosque and the post-Godhra genocide of Muslims in Gujarat.

The role of the police varies throughout India, depending upon a number of factors, of which the most important is the administrative and political control of the police. Whether the police act against Muslims or do not act against Muslims, when riots occur, depending primarily upon the inclination of their administrative and political superiors, which in turn depends upon which political party or coalition is in power.[34] In this regard, the eyewitness account of R.B. Sreekumar who was the Additional Director General of Police

(Intelligence) of Gujarat from 9 April 2002, to 18 September 2002 and published a memoir *Gujarat Behind the Curtain* in 2015 is eye-opening. In this memoir, he has provided a detailed account of the Gujarat police's criminal negligence during the Gujarat pogrom.[35]

Wherever Hindu nationalists have got political control in their hands, violence against the Muslim community has become widespread because then the police do not perform their duty. If this control were in the hands of a political party or an alliance that is supported by Muslim votes, such a political party or a coalition would surely try to stop the violence against Muslims amidst fear of losing the Muslim vote in the next elections. This shows how the role of the police is directly related to the electoral performance of the Muslim voters and especially to the party or alliance supported by them. One of the most important reasons for the low level of communal violence in Kerala is the effective presence of Muslim vote bank in Kerala and the presence of IUML as a Muslim representative political party. Wilkinson wrote:

> High levels of party fractionalization have forced successive governments to order the Kerala police force to prevent attacks on minorities in the state at all costs. The Muslim minority's leaders in the state are well aware that they hold the balance of power between the UDF (Nair-Christian) and LDF (Ezhava) coalitions and are quick to demand action whenever they feel their security is in jeopardy. In 1992, as the Ayodhya mosque agitation was reaching dangerous levels throughout India, the Indian Union Muslim League under Suleiman Sait threatened to bring the INC-led UDF government down unless there was a speedy overhaul of the police and bureaucracy and strong action against those who sought to incite anti-Muslim riots in Kerala.[36]

In Kerala, police and local officials know very well that if they fail to stop anti-Muslim violence they would be suspended or given

punitive transfers. While in Gujarat, police officials were let off with merely written warnings, for allowing hundreds to die. Why this happens in Gujarat because Muslim vote in Gujarat does not have the same importance as it has in Kerala. BJP was openly anti-Muslim but even the INC took Muslim vote for granted because they knew Muslims had no other option but to vote for the INC.

In *We Have No Orders to Save You*, the Human Rights Watch reported in 2002 that the Gujarat state administration was engaged in a massive cover-up of the state's role in the massacres and that of the Sangh Parivar.[37] Though eyewitnesses filed numerous police First Information Reports (FIRs) that named local VHP, BJP, and Bajrang Dal leaders as instigators or participants in the attacks, few if any of these leaders were arrested. Reportedly, under instructions from the state government, the police faced continuous pressure not to arrest them or to reduce the severity of the charges filed.[38] It is really staggering to see the official figures of the cases summarily closed without proper investigation by the Gujarat police. According to a report published in the *Frontline*, 2,0120 cases were summarily closed by the Gujarat police without proper investigation (see Table 2 below).[39]

Table 2

The Progress of Cases Registered in Connection with post-Godhra Violence

City/District	Cases registered	Cases charge-sheeted	Closed Summary field	Pending Investigation
Ahmedabad City	959	517	410	32
Ahmedabad Rural	88	71	16	1
Vadodara City	617	390	203	24
Vadodara Rural	242	77	155	10
Anand	199	131	67	1
Kheda	193	113	38	42

Panchmahal	179	111	67	1
Bhavnagar	310	40	270	0
Sabarkantha	467	178	288	0
Banaskantha	61	16	44	1
Mehsana	172	78	94	0
DAHOD	87	24	60	3
Others	678	268	407	3
Total	4,62	2,014	2,120	118

Source: Dionne Bunsha, "Cases of complicity," *Frontline*, Volume 21 - Issue 18, August 28 - September 10, 2004.

In UP, the situation was a bit different. Some governments in UP were able to act effectively when they chose to do so. For example, during the 'Rath Yatra' of the BJP supremo Lal Krishan Advani in October 1990, Mulayam Singh Yadav did not allow *kar sevaks* to demolish the Babri mosque because he wanted to get the Muslim votes. However, when the government changed in UP as a result of 1991 elections, and Kalyan Singh of BJP came into power, he not only allowed the *kar sevaks* to demolish the Babri mosque but also did nothing to stop the communal violence after the demolition.

However, later the situation improved a bit in UP and Paul Brass in his book *The Production of Hindu-Muslim Violence in Contemporary India* published in 2003 reported a gradual reduction of Hindu-Muslim violence in Uttar Pradesh after the demolition of the Babri mosque in 1992 and he also described that the 2002 Assembly election results reflected a decline both in riotous activity and electoral communalisation and polarisation.[40]

Brass claims, that the decrease in communal riots in UP resulted in a decrease in the turnout as well. Between 1952 and 1974, the overall trend in UP turnout was upward (see table.3). The first declining slope in the turnout rates occurred in the period between 1974 and 1985. Then, from 1985 to 1993 during the period of highly charged communal atmosphere turnout went up and then in 1996, it started to decline again. In UP, we can observe that during riots people

were more charged up so they came in greater numbers to vote but when everything settled down and during the periods of communal solidarity the people lost enthusiasm and turnout started to decline again.

Table 3

Voters Turnout in UP Assembly Elections from 1952-1996

Turn out	Year
37.88	11952
44.92	11957
48.58	11962
50.96	11967
52.22	11969
55.17	11974
44.87	11977
44	11980
45.22	11985
48.49	11989
47.2	11991
55.83	11993
54.9	11996

Source: Paul R. Brass, *The Production of Hindu-Muslim Violence in Contemporary India*, (London: University of Washington Press, 2003).

"Gujarat has been a low turnout state, and it continued to be so in the decade of 1990s. The Lok Sabha election of 1996 witnessed a mere 35.9% turn out in the state, the lowest ever in the state. Even the highest turn out elections by Gujarat standards fall much below the national average."[41] But in Gujarat as well the turnout had increased in 2002 elections which were held some nine months after the Godhra incident, from 59.3 per cent in 1998 to 61.52 per cent in 2002 Assembly elections.[42] However, in Kerala, the riots in other parts of India had little effect on the turnout, which has always remained above 70 per cent in

Kerala. This also shows how effectively the Kerala government had dealt with the communal issue.

Conclusion

This study shows that communal violence against a minority is directly related to how sympathetic the political and administrative state machinery is to minority interests and in a democratic polity, it depends on how important the votes of the minority are for the government in power. The role of the police is a determining factor during communal riots. If Hindu nationalists control the state machinery, violence against Muslims is rampant and unstoppable and where Muslim sympathisers are in control they have been able to control the riots against Muslims to a certain degree. This very much looks like the International Relations theory of Balance of Power. Where the balance of power is tilted against Muslims they are made to suffer, with no support system whatsoever and where they hold the balance they are in a better position to secure their interests and are less vulnerable to the extremist forces. The Kerala example proves that if the democratic process and secular forces are strong and the administrative and political machinery is willing to protect the minorities, even in worst circumstances like after the demolition of the Babri mosque in 1992 when the whole of India was under communal frenzy, the situation can be brought under control.

This study also shows that Muslims are better off in Kerala largely because of having their own political party the shape of the IUML. In other words, this means disbanding of the All India Muslim League after independence was a mistake. Had Muslims been represented by one single party all over India, surely they would have been in a far better position to negotiate their terms and conditions of cooperation with the parties in power in states and in the centre.

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WATER SECURITY IN SOUTH ASIA: CHALLENGES AND PROSPECTS

MUHAMMAD FAHEEM* AND ASGHAR KHAN**

Abstract

This paper explores the issue of water security in South Asia in the context of the non-traditional security framework. The dynamics of security have witnessed a considerable change in the post-Cold War era. This paper advocates for a broader and more comprehensive approach to understanding national and inter-state security in holistic terms rather than understanding it solely in traditional military terms. The paper attempts to substantiate the comprehensive security approach by analysing the increasing water scarcity between India and Pakistan as an emerging inter-state security threat in the South Asian region. The concept of water scarcity revolves around the depletion of water resources around the world. The water resources of the world are depleting with the passage of time and various factors responsible for this depletion. This paper argues that the major factors behind water scarcity in South Asia are rapid population growth, the process of industrialisation, mismanagement of water resources, climatic changes, global warming, etc. The paper suggests that for regional and national security and stability, water-related aspect of security needs due consideration.

Keywords: *water security, non-traditional security, comprehensive security, water-wars, water-cooperation, Indus Waters Treaty.*

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جنوبی ایشیاء میں تحفظ آب: مسائل اور امکانات

محمد فہیم اور اصغر خان

خلاصہ

اس تحریر میں جنوبی ایشیاء میں غیر روائیتی حفاظتی حصار (سیکورٹی فریم ورک) میں پانی کی حفاظت کے مسئلے کا جائزہ لیا گیا ہے۔ سرد جنگ کے خاتمے کے بعد سلامتی کے محرکات میں ایک معقول تبدیلی دیکھی گئی ہے۔ یہ مضمون ایک ایسی کوشش ہے جس میں تجزیہ کیا گیا ہے کہ جنوبی ایشیاء کے خطے میں پانی کی کمی پاکستان اور بھارت کے مابین سلامتی کے حوالے سے ایک ابھرتا ہوا خطرہ ہے۔ یہ تحریر وکالت کرتی ہے کہ ایک وسیع تر اور جامع سمجھوتے تک پہنچا جائے جو روائیتی فوجی شرائط پر قوم اور ملک کے درمیان قرار پائے پانی کی کمی کا تصور دنیا بھر میں پانی کے وسائل میں کمی کے گرد گھومتا ہے۔ وقت گزرنے کے ساتھ ساتھ دنیا میں پانی کے ذرائع کم ہو رہے ہیں اور کئی عوامل اس کمی کے ذمہ دار ہیں۔ اس تحریر میں دعویٰ کیا گیا ہے کہ جنوبی ایشیاء میں تیزی سے بڑھتی ہوئی آبادی اور پانی کی کمیابی کے پیچھے جو بڑے عوامل کارفرما ہیں وہ صنعتوں کا قیام، پانی کے ذرائع میں بدانتظامی، موسمیاتی تبدیلیاں اور عالمی درجہ حرارت میں اضافہ وغیرہ ہیں۔

اس تحقیق میں تجاویز پیش کی گئی ہیں کہ علاقائی اور قومی سلامتی اور استحکام کے لیے پانی سے متعلق سلامتی کے پہلو لحہ فکریہ ہیں۔

Introduction

In the 21st century, the dynamics of security have changed and, as a result, along with traditional security, the non-traditional aspect of security has also gained substantial significance. The non-traditional aspect of security focuses on non-traditional threats, such as food insecurity, diseases, poverty, climatic changes, population growth, and water scarcity. Among these non-traditional (or non-military) threats, water scarcity is a central and significant issue. Water scarcity includes the depletion of water resources around the world for a variety of reasons. Major factors in this context are rapid population growth, industrialisation, mismanagement of water resources, climatic changes, and global warming. Today, the scholars of security studies consider water scarcity as a challenging issue that needs to be analysed with great care and objectivity. In today's globalised world, national security is understood keeping in mind the different components and aspects of security. One important aspect of national security is a state's security in terms of its water needs and resources. Water insecurity is caused by different factors and the phenomenon of water depletion is an important driver in this regard.

For regional and national security, water-related aspect of security also needs due consideration. This paper analyses water security issues in South Asia within the non-traditional security framework. It is divided into three main sections. The first section presents a review of the existing body of literature on the subject and the conceptual debate around it. The second section elaborates the challenges to water resources in South Asia. The third section discusses water security in the case of Pakistan and India.

Literature Review

Today, the world is facing water depletion crises due to recent trends of climatic changes, rapid growth in population, processes of industrialisation, energy needs, and rising global temperatures. This

depletion in the freshwater resources is referred to as water scarcity. Water scarcity not only has serious consequences for human well-being but is also linked with regional security and stability.[1] Water resources once exhausted cannot be regenerated.

Terrestrial organisms (living beings) use a very little amount of the existing global water resources.[2] The world's freshwater resource is finite because 97.5 per cent of the world's water is salt water and only 2.5 per cent is fresh water, roughly 99 per cent of that freshwater is either trapped in glaciers or located in water tables that are too deep to access.[3] The rapid population growth of about eighty million a year is also negatively affecting the demand for freshwater resources.[4] The issue of global warming also has its share in the problem of water scarcity. With the rising temperature, drastic climatic changes like glacial melt, floods, droughts, and rise in sea levels can be expected.

In the 21st century, the non-traditional security experts link water security with national security. With growing water depletion, competition among states to have access and control of water resources would also intensify. Moreover, there is a possibility that this competition might transform into intra-state and inter-state conflicts. There are about 263 trans-boundary river basins and many trans-boundary aquifers on which more than 3 billion people depend.[5] The literature on inter-state water sharing mechanism can be classified into two broad categories. One is the water war rationale, which argues that future conflicts among states will be related to water resources sharing. The second perspective is water cooperation school of thought, which argues that water resources sharing will promote long-term cooperation among states.

According to the dominant water war perspective, the wars of the 21st century would be fought for water resources. The then UN Secretary-General Boutros Boutros-Ghali argued in 1991 that the "next war will be fought over water, not politics."[6] Similarly, Ismail Serageldin, the first chairperson of the Global Water Partnership said,

"If wars of this century were fought over oil, the wars of the next century will be fought over water—unless we change our approach to managing this precious and vital resource."[7] Ban Ki-Moon, the former Secretary General of the United Nations, has expressed his concerns about the growing water depletion problem in the world. While addressing the World Economic Forum in January 2008, he said, "A shortage of water resources could spell increased conflicts in the future. Population growth will make the problem worse, so will climate change. As the global economy grows so will its thirst. Many more conflicts lie just over the horizon."[8]

The proponents of water cooperation rationale believe that water resources sharing leads to cooperation among states. Aaron Wolf of Oregon University, on the basis of data, maintains that the relationship between water scarcity and war is sketchy.[9] But this perception has been overshadowed by the perspective of water wars which emphasises competition for resources.

Water scarcity has been felt globally with varying degrees. Water levels are falling globally and there are many drivers and catalysts to this process. Especially, the situation in the South Asian region is alarmingly serious and critical in terms of its depletion and management of water resources. This region geographically consists of seven states including Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. The South Asian region is very complex in its nature and there are many inter-related and inter-linked political, geographical, demographic, and environmental factors making it difficult to take on the task of managing water scarcity or more broadly the issue of water insecurity as a functional issue on which there should be cooperation and participation both at intra- and inter-state level. Mismanagement of water inside states is an important obstacle in the way of strengthening the existing transnational water sharing mechanism that regulates the riparian relationship between the South Asian states. These states do not enjoy a good political

relationship with each other and, therefore, feel reluctant to have transparency in terms of water flow and water depletion. This reluctance results in mutual confusion and distrust putting strains on the functioning of the transnational water sharing arrangements. The South Asian Association of Regional Cooperation (SAARC) is not as active and dynamic as the European Union to ensure the required regional cooperation and participation in the political, economic, social, and environmental fields. Newly occurring climatic changes add to the worsening water woes of the region.

The unique problems and complex nature of South Asia make the region different from other regions in terms of its water resource sharing, making water an important issue. Water resource depletion has intensified competition among states to have control of the water resources and some scholars are predicting inter-state and intra-state water conflicts in the region. This water scarcity can be attributed to different factors, such as rapid population growth, climatic changes, trends of industrialisation and urbanisation, mismanaging of water resources inside states, outdated agricultural practices, and over-exploitation of groundwater resources. To tackle the water issues of the South Asian region understanding these challenges is very important and must be kept in mind while formulating any water policy in the region.

Challenges to Water Resources in South Asia

The gap between demand and supply of water is widening day-by-day in South Asia. The phenomenon of water shortage needs an urgent response in the region. One-fourth of the world population lives in South Asia, yet the region has less than 5 per cent of the world's water resources.[10] The water availability has decreased by 70 per cent and it has fallen from 21,000 cubic meters in 1960 to just 8,000 in 2005.[11] If this trend continues, the region might face extensive water scarcity in the approaching decades. The gap between the

demand and supply is bound to rise, resulting in more competition over water resources in the region. So water issue can be regarded as an important factor in the 21st century for the South Asian states having implications for their national policies and security.

Despite the fact that South Asian states face a grave scenario in terms of water, limited attention has been given to the efficient management of water resources. There is a lack of policies in these states that would ensure long term and efficient water management. Defective pipelines, leaky canal system, outdated agricultural practices, and a free hand to use the groundwater through tube wells are some indicators of an alarming situation. A research study suggests that it is not the deficiency of water that leads to conflict, but the insufficient way in which the resource is governed and managed.[12]

When the surface water is not available, there are two options left: either to wait for rain or to rely on groundwater.[13] In the South Asian context, the depletion in the surface water is accompanied by the disappearance of groundwater because of over-reliance on groundwater to satisfy people's needs. Pakistan has low water storage capability and this is regarded as the major reason for Pakistan's increased water losses when compared with the developed states like the US and Australia. A common feature in almost all the states of the region is their increased reliance on groundwater. In Bangladesh, 75 per cent irrigation is done through groundwater[14] whereas in India one million wells are built every year.[15] These figures show an increased use of groundwater sources. This unregulated use of groundwater resources is putting a serious strain on this form of the available water resources.

Although there is a looming threat of water scarcity, the political will to deal with the water issue is seen missing in South Asia. The political and bureaucratic elite of the region take water as a sovereign issue but actually water is transnational in its nature for which a better and viable option for the states is to cooperate. Because

the rivers that cater to the needs of billions of people of the region transcend the political and national boundaries, treating water as a political issue is very risky. Different neighbouring states of the region, while sharing the same river systems, follow, different water policies, which makes water governance weak in the region.

Climate change is also having an adverse impact on the levels of available freshwater resources and with its heavy reliance on the monsoons and snow-fed rivers, water availability in the region is highly sensitive to climate change.[16] It is a newer phenomenon and scientific investigation about the effects of climate change on the patterns of rainfall, melting of glaciers, etc. has recently started. It is believed that as a result, there is going to be an increasing water shortage and rivers are likely to turn drier in the imminent future. The South Asian region may face critical climatic conditions in the near future. Pakistan might face the risk of floods and droughts, whereas the resulting rising sea levels might have drastic consequences for the coastal areas of Bangladesh. An important impact of climatic changes is the phenomenon of glacial melts due to the rise in global temperature. As the three important river systems of the region are partially fed by waters from the melting glaciers of Himalaya and Hindu Kush, this phenomenon would first result in an increased level of water in the river systems and then following this transitional period, the level of water would start falling. The melting Himalayan glaciers, regarded as the water tower for South Asia,[17] would bring a rise in water levels, increasing the chances of floods in the region. Rising sea levels would also be a critical challenge for states like Bangladesh, Bhutan, the Maldives, and Nepal.

The risks of inter-state conflicts would multiply in the 21st century, as water ignores political and community boundaries and the decision in one place has an effect on water use elsewhere.[18] The existing transnational water management mechanisms between the states of South Asia are faced with greater strains. Three important

water sharing mechanisms exist in the South Asian region and these mechanisms are referred to as the Indus Waters Treaty, the Ganges Treaty, and the Mahakali Treaty. The Indus Waters Treaty provides a transnational water-sharing mechanism to the two neighbouring nuclear states of India and Pakistan. The Ganges and the Mahakali treaties regulate the water relationship between India-Bangladesh and India-Nepal, respectively. Bangladesh and Pakistan are lower riparians to India in the case of Brahmaputra and Indus Basins. There are already existing water issues between these states and the current water shortage would intensify their water woes, having a negative impact on their water relations. The transparency in terms of water levels and flow is missing in the region. So, when there will be a decrease in the water levels in the downstream states, they would naturally hold upper riparian India responsible for that. Pakistan has already objected to several Indian projects over the Indus Basin system and the Kishanganga dispute is to be decided by the International Court of Arbitration. India and Bangladesh share 54 transboundary rivers including Brahmaputra, Meghna, and Ganges. They are also having water conflicts, especially regarding the Farraka Barrage, the Teesta Project, and the River Linking Project.[19] There are also intra-state conflicts inside the states of South Asia between different units. Now it is clear that in the near future water conflicts in South Asia are going to be a dominant feature in the region.

The South Asian states have often opted for supply-side solutions to their water woes. The supply-side solution is based on the idea of constructing large engineering projects, such as dams aimed at supplying water from rivers to be used for multiple purposes. The supply-side strategy is just focused on the supply of water. It does not take into account how that supplied water is used. Keeping in mind the effects of water scarcity, it is now postulated by many experts that the supply side solutions should be accompanied by demand-side solutions. The demand side strategy takes into account water-

conserving technologies, crop diversification, better investments in infrastructure maintenance and wastewater treatment, and a stronger embrace of rainwater harvesting.[20] As discussed earlier, there is serious internal mismanagement of water resources in South Asia. Mistaking this mismanagement for water shortage, governments succumb to their supply-side fancies and construct more dams and reservoirs, which often results in intra- and inter-state tensions. The benefits of dams cannot be underestimated but at the same time, they are not without flaws and demerits.

Peter Gleick refers to the demand side strategy as the 'soft path'[21] in terms of water use and according to him, it is the best option in terms of tackling current water challenges. He also argues that the "hard path treats our water problems as a simple issue of getting more from the environment."[22] The hard path refers to the supply side strategy and dams are the principal instruments of this path.[23] In the 21st century, water problems can be best tackled by using a mix of supply-side and demand-side strategies to cope with worsening water challenges.

In this backdrop, it is argued that water security has emerged as a new perspective of looking at the inter-state security and interaction. Especially, in the case of India and Pakistan, the issue of water security is of immense importance as discussed below.

Water Security: Pakistan and India

According to UNESCO's Institute for Water Education "Water security involves the protection of vulnerable water systems, protection against water-related hazards such as floods and droughts, sustainable development of water resources and safeguarding access to water functions and services."[24] Water Security is a broader term. It takes into account the availability of water, access to water, and the protection and preservation of water resources. Different indicators can be used to find out the water security of a specific state. These

indicators may include the per-capita quantity of the available water resources, the national and transnational management of water resources, the effect of climatic changes on the state, and the quality of water.

According to Falkenmark's Indicators or Water Stress Index, the level of water scarcity of a country can be measured "dividing the volume of available water resources by its population."[25] If the result is 1,700 m^3 (cubic meter), the country is 'water stressed' and if the result falls short of 1,000 m^3 (cubic meter), the country is considered 'water scarce' and if the result comes out less than 500 m^3 (cubic meter), the country is regarded 'water poor'.[26] According to this Index, Pakistan has reached the threshold of water scarcity as according to the Economic Survey of Pakistan (2009-10) the per capita availability of water is 1,066 m^3(cubic meter)/person.[27] A report of the Asian Development Bank also tells the same story. In 2007, an Asian Development Bank (ADB) report stated that Pakistan was "nearly at water scarcity threshold of 1,000 cubic meters a year."[28] The report of the World Bank has also highlighted the issue of water scarcity in Pakistan. The World Bank in its report (2005) observed: "Pakistan is already one of the most water-stressed countries in the world, a situation which is going to degrade into outright water scarcity."[29] These details make clear that Pakistan can have some serious problems having a causal relationship with its fast depleting water resources.

Pakistan is an agrarian country in which the agricultural sector plays a very important role. 21 per cent of Pakistan's GDP (Gross Domestic Product) is contributed by agriculture. Agriculture absorbs 45 per cent of the labour force and the life of 65 per cent of the population is directly or indirectly linked with agriculture.[30] Growing water scarcity can have negative impacts on the agricultural economy of Pakistan. The gap between the demand for water and its supply is increasing with the passage of time. In 2025, the demand for water

would be 338 billion cubic meters and its supply would be 236 billion cubic meters, which suggests the shortfall of 100 billion cubic meters in 2025.[31] It makes clear that the water resources of Pakistan are depleting and Pakistan needs to think seriously about the phenomenon of water scarcity.

In the national policy discourse in South Asia, water is not a priority area. Water is a strategic asset having an impact on human life, agriculture, economy, environment, and even national security. In this context, water deserves to be given its due place while formulating national policies. In the words of Mikhail Gorbachev, "Water, like religion and ideology, has the power to move millions of people. Since the very birth of human civilization, people have moved to settle close to it."[32] To-date, the national policies of Pakistan remained focused on the traditional aspects of security. Consequently, less focus has been paid to the criticality of managing and coping with the non-traditional security threats emanating from intensifying water scarcity. The non-traditional security paradigm puts great emphasis on the management and preservation of water resources. In the field of mismanaging its water resources, Pakistan is considered to be the worst culprit.[33] The outdated infrastructure, leaky canals, water conserving agricultural practices, lack of treatment facilities for waste-water and unregulated use of groundwater resources makes it clear that at domestic levels no serious attention has been given to on the preservation and protection of this precious rather strategic resource.

India and Pakistan share their water by a water-sharing mechanism known as the Indus Waters Treaty. Pakistan is the lower riparian vis-à-vis upper riparian India on the Indus Basin System. The phenomenon of water scarcity and the internal mismanagement of water have put this transnational water sharing mechanism under a lot of strain. This treaty has functioned quite well for the last half century but in the approaching decades, with the water challenges getting critical, it will be faced with a testing scenario. Asma Yaqoob believes

that the revocation of the decades-old water-sharing treaty between India and Pakistan will have serious legal, political, and economic implications.[34] She admits, however, that India and Pakistan will be faced with more water disputes in the future due to the lack of institutional capabilities of both the countries to absorb and analyse the physical changes and variability occurring in the Indus Basin due to climatic changes.[35] Her works illustrate that although unilateral revocation of the treaty is not an option, a serious effort is required to broaden its scope to deal with the emerging challenges of water security in the region. Transnational management of water resources would be difficult keeping in mind the current strained pattern of Pakistan's bilateral relations with India.

Source: Aljazeera.com. "Kashmir and the Politics of Water" published on www.aljazeera.com on August 01, 2011.
Blue lines show the water flow in Indian Jurisdiction.
Green lines show the water flow in Pakistani Jurisdiction.

The above-given map has shown the four major rivers of the Indus Basin system. It not only shows the importance of the Indus Waters Treaty to regulate the water-sharing on the Indus river system

between India and Pakistan but also highlights the vulnerable position of Pakistan as a lower riparian state vis-à-vis India. The three western rivers of the Indus Basin System, i.e., Indus, Jhelum, and Chenab, flow through the Indian controlled territory to reach Pakistan. Both the neighbouring countries, faced with the challenge of water scarcity, have their own viewpoints and understanding of the water scarcity challenge. India, as the upper riparian, interprets water scarcity as a phenomenon related to and affected by climatic changes, whereas Pakistan believes that increase in the number of Indian hydroelectric projects on the western rivers of the Indus System, allotted to Pakistan, is the main factor behind the water depletion downstream in Pakistan. These divergent viewpoints and the absence of good political relations between the two countries have led many people to believe that the Indus Waters Treaty would come under more stress as the challenge of water scarcity intensifies with the passage of time and India and Pakistan might be faced with more serious water conflicts in the near future.

In addition to the Indus Basin System, Pakistan also shares the Kabul River basin with Afghanistan, which roughly accounts for 25 per cent of water needs of Pakistan.[36] On Kabul River, Pakistan and Afghanistan are lower and upper riparian states, respectively. In the very initial years of its independence, Pakistan had to face a water-sharing related conflict with India that was resolved through the Indus Waters Treaty of 1960. This treaty provided a framework for both the countries to share the trans-boundary water resources of the Indus Basin. While in the context of the Kabul River basin, generally, there has been an atmosphere of cooperation between Pakistan and Afghanistan. Pakistan, being the lower riparian country has been at an advantage because of the prolonged instability in Afghanistan. Consequently, Pakistan had been getting and using an unhampered flow of the Kabul River. However, in the post 9/11 scenario, successive Afghan governments have felt the need for utilising the waters of the

rivers for agricultural and energy purposes. Rahimullah Yousafzai, an expert on Afghan Affairs, believes that with the increasing water needs of Afghanistan, the probability of water-related conflicts between the neighbouring Pakistan and Afghanistan would also increase.[37] In this regard, Indian help to Afghanistan in the construction of dams is also a matter of concern for Pakistan. Keeping in mind the growing demand and need of water resources, it is being suggested that Pakistan and Afghanistan should now come up with a written water-sharing mechanism on the pattern of the Indus Waters Treaty and efforts in this regard are underway with the help of third-party institutions like the World Bank. It is argued that the historically existing customary/traditional water sharing and cooperation will not be in a position to sustain the pressures of the growing phenomenon of water scarcity.

India and Bangladesh, as upper and lower riparian states, share 54 rivers through the three main systems of Ganges, Brahmaputra, and Meghna River Basins.[38] On the pattern of the Indus River basin issues between India and Pakistan, India and Bangladesh have also had problems and conflicts with regard to the distribution and sharing of their trans-boundary water resources. The construction of the Farakka Barrage by India in 1975 to divert some water of the Ganges River near the border of Bangladesh was a matter of concern for the newly independent state of Bangladesh. In 1996, both the states succeeded in having a 30-year water sharing agreement known as the Ganges Treaty to address some of their water-related concerns. Bangladesh, as the lower riparian state on the aforementioned three water systems, aspires for a just and equitable distribution and sharing of its waters with India on all the 54 rivers that it shares with India. The limited and time-bound cooperation between both the states in the form of the Ganges Treaty does not guarantee long-term cooperation between them in terms of sharing their water resources. Therefore, serious

water-related conflicts between both the states cannot be ruled out in future.

The impacts of climatic and environmental changes vis-à-vis Pakistan's water resources are quite visible. The devastating floods in 2010 are attributed to the phenomenon of glacial melt and global warming. Yet, in Pakistan, there has been no vigorous and scientific inquiry to analyse the pattern and nature of the newly occurring climatic changes. Pakistan's water insecurity demands serious attention at the national level, otherwise, it can have catastrophic ramifications for the national and regional stability.

Compared to Pakistan, the situation of India is somewhat better in terms of its water quantity. However, India too does not qualify as a water-secure state. The Indian water resources like Pakistan's are faced with the challenges of water scarcity, mismanagement, rapid population growth, and climatic changes. India's overall per capita water availability has decreased from 5,000 cubic meters in 1950 to 1,800 cubic meters in 2005. India might reach the threshold of 1,000 cubic meters in 2025.[39] According to Falkenmark Indicator, therefore, India is also a 'water-stressed' country.

At the national level, India is also faced with critical mismanagement of water resources. Like other South Asian countries, India also relies on an outdated infrastructure for ensuring the supply of water and leakages in pipeline systems result in the loss of a huge quantity of water. For instance, New Delhi supplies 700 million gallons of water to its residents each day and one-third of this supply is lost due to leaks within the ten thousand kilometre system of decrepit pipes.[40] The trend of over-exploiting the groundwater is also snowballing with every passing day. There were two million wells in India thirty years ago; today, there are twenty-three million.[41]This unregulated use of groundwater would result in its disappearance as groundwater-levels are already falling in India.

This mismanagement of water resources in India has an impact

on the transnational water-sharing mechanisms. In order to tackle the growing water shortages due to the growing water scarcity issues and domestic mismanagement of water resources, India is focusing on supply-side solutions. According to Raja Muhammad Khan, "Apart from the 33 projects, nearing completion, India is planning to construct over sixty water dams and reservoirs, on the western rivers."[42] India is constructing an array of new dams. This concentration on the supply side by India will magnify Pakistan's fears. Pakistan is having concerns regarding the dams on the western rivers since these rivers have been allocated to Pakistan by the Indus Waters Treaty. So the Indus Waters Treaty is expected to be under a lot of stress in the upcoming decades.

Besides internal mismanagement and growing water scarcity, Indian drinking water is also low in qualitative terms. India is ranked at 120 among 122 countries having a poor quality of water.[43] Every third person in the world deprived of clean drinking water is an Indian.[44] Moreover, the climatic changes also have a significant negative impact on the water resources of India. The phenomenon of glacial melt has effects on the flow and patterns of the rivers in India since most of the rivers are fed by water from the Himalayan and Hindukush glaciers.

Having analysed the water-related vulnerability of South Asia generally and India and Pakistan specifically, a policy framework is given below to practically manage the water crisis.

Policy Framework

The South Asian leadership needs to realize the importance, vulnerability, and the transnational nature of the precious water resource. The paper has established that in addition to focusing on water issues at the national and unilateral level, the solution to South Asian water scarcity and insecurity can best be found through multilateral engagements at the regional level. The analytical framework of rationalism, which is a mixture of the ideas of liberalism

and realism, stresses a regional approach towards water management. It asserts that by cooperating for water resources at the South Asian level, the regional states will be able to enhance their national interest by ensuring long-term and sustainable water security. On the other hand, unilateral water-related policies of the regional states have the drawback of widening the already existing trust-deficit and thereby making difficult the optimum management and utilisation of their water resources. In light of this framework, the following policy options are recommended:

i) A minimum level of cooperation in South Asia in the limited area of water resources is the need of the day. Most of the water-related conflicts and disagreements can be understood and resolved if the party states share the relevant data with each other. To achieve this objective, the already existing water sharing mechanisms in South Asia need to be strengthened and the institutional frameworks like the Permanent Indus Commission between India and Pakistan need to be empowered to ensure cooperation in having access to the water-related data.

ii) The regional states also need to start negotiations to develop an understanding of the management of transnational water resources by debating the effects of climatic changes and global warming in the future. In the development of such a regional approach, China, though technically not a regional state but a super riparian of South Asia, needs to be engaged.

iii) To tackle the mismanagement of water resources at national levels, the regional states should devise multi-pronged strategies for water conservation, groundwater regulation, replacement and repair of the old water infrastructure, introducing more scientific agricultural techniques, and initiating research on ascertaining the actual impact of climatic changes and global warming on water resources and glacial

melt.

iv) In the South Asian context, the importance and management of water resources need to be given priority while formulating the national security policies. Water, until now, has been categorised as a matter of low politics but in the 21st century, as explained through this paper, water issues are going to have important impacts on the nature of the relationships between the water-sharing states of the region. Due to this reason, water issues need to be given importance by the policymakers and leaders of the South Asian states.

Conclusion

This paper concludes that the South Asian region is faced with a serious crisis of water insecurity in contemporary times. The lack of good political relations among the South Asian states is mainly responsible for the absence of a comprehensive and regional framework needed for the management of their transnational water resources transcending national geographic boundaries. This transnational nature of the precious resource makes it imperative for the regional states to cooperate with each other and adopt a multilateral and regional approach. Such cooperation will not only enhance the national interest of the states but will also facilitate the spillover of the limited cooperation into other areas of hard politics and conflicts.

The situation of India and Pakistan in terms of water scarcity and insecurity needs serious attention at the policy level as recommended above. The contemporary issues and controversies related to Baglihar and Kishanganga hydroelectric projects have clarified that competition for water between the two nuclear neighbouring states would intensify in the near future and consequently the Indus Waters Treaty would come under strain to respond to the growing intensity of such competition. Both the states

need to ensure the implementation of the Indus Waters Treaty in letter and spirit to have fair access to and knowledge of their respective utilisation of water resources. Water, as a transnational resource, can be a source of cooperation among riparian states and if not properly managed it has the potential to ignite fierce conflicts and competitions in the region.

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LESSONS FOR PAKISTAN'S EDUCATION SYSTEM FROM THE SOUTH ASIAN REGION

HUMERA IQBAL*

Abstract

The foundation of a country's progress is based on the achievements attained in the education sector. The paper examines Pakistan's overall progress in the educational sector and its underlying factors. South Asia is one of the few regions marked among the illiterate of the world. Even among its peers within this illiterate region of the world, Pakistan lags behind in literacy despite its efforts. The paper analyses the causes and consequences of the poor education system in Pakistan. It also studies the impacts of educational shortcomings on the extremism landscape of the country. Best practices of Sri Lanka through a successful model of education to fight extremism and balanced religious education of the Maldives are examined for Pakistan to consider. Moreover, the study highlights Pakistan's education system's weaknesses and gives a detailed comparison of the educational achievements of all the regional countries over a period of time to bring forth the importance of education to the policymakers at home. The paper looks at the targets achieved and missed by Pakistan in light of the international standards set by MDG and SDG and also presents recommendations for the policymakers of Pakistan so that the country is able to compete with the international community in future.

Keywords: *education, literacy, MDGs, SDGs, Vision 2030, gender parity, South Asia*

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پاکستان کے نظام تعلیم کے لیے جنوبی ایشیاء سے اسباق

حمیرا اقبال

خلاصہ

کسی ملک کی ترقی کی بنیاد تعلیمی میدان میں کامیابیاں حاصل کرنے پر مبنی ہے یہ تحریر تعلیمی شعبے میں پاکستان کی تمام تر پیش رفت اور اس کے تحت کارفرما عوامل کا جائزہ لیتی ہے۔ جنوبی ایشیاء دنیا کے ناخواندہ خطوں میں سے ایک ہے۔

اپنی تمام تر کوششوں کے باوجود، پاکستان دنیا کے اس ناخواندہ خطے میں بھی سب سے پیچھے ہے۔اس مقالے میں پاکستان کے کمزور نظام تعلیم کی وجوہات اور اثرات کا تجزیہ کیا گیا ہے۔اس امر کا بھی جائزہ لیا گیا ہے کہ کسی ملک کی تعلیمی خامیوں کے اس کی سرزمین پر انتہا پسندی پر کیا اثرات مرتب ہوتے ہیں۔

انتہا پسندی کے خلاف جنگ میں سری لنکا کے کامیاب تعلیمی نمونے اور تعلیم کے شعبے ہیں مالدیب کی متوازن مذہبی تعلیم کو پاکستان کے لیے ایک مثال کے طور پر پرکھا گیا ہے۔علاوہ ازیں یہ تحقیق پاکستان کے تعلیمی نظام کی کمزوریوں کو سامنے لاتی ہے اور اُن کا تمام علاقائی ممالک کی تعلیمی کامیابیوں کے ساتھ تفصیلی موازنہ کرتی ہے جو کہ ہمارے ملک کے پالیسی سازوں کو تعلیم کی اہمیت سے روشناس کرتی ہے۔

اس تحریر میں جائزہ لیا گیا ہے کہ پاکستان ایم ڈی جی اور ایس ڈی جی کے مقرر کردہ معیارات کے مطابق اپنے اہداف کے حصول میں کس حد تک ناکام یا کامیاب رہا ہے۔ پاکستان کے پالیسی سازوں کے لیے سفارشات بھی پیش کی گئی ہیں تاکہ ملک مستقبل میں بین الاقوامی برادری کے ساتھ مقابلے کے قابل ہو سکے۔

Education may be considered the 'new oil' of economic and social development. It improves the productive capacity of societies and strengthens their political, economic, and scientific institutions. Education raises overall levels of labour productivity and economic growth, ensuring an improved quality of life. Similarly, it contributes to reducing poverty by enabling the poor to participate in the growth and benefit from social welfare services. Thus, education has integrated instrumental, personal, social, and distributive roles for the foundation of modern civilised society.

The developed and the developing worlds are assessed on the basis of the level of advancement attained by some and by the remaining striving hard for more. Pakistan, classified as a developing country, is still struggling to find ways to become a developed nation by raising its literacy level. Sadly, many countries including Pakistan define literacy only as the ability to read and write. Despite the Constitutional right to education, Pakistan struggles to establish with its citizens the foundational significance of education as an investment linked directly to future socio-economic growth within and beyond its borders.

To contextualise Pakistan's literacy position within the globe and within South Asia, UNESCO figures show that over 75 per cent of the world's 781 million illiterate adults is found in South Asia, West Asia, and sub-Saharan Africa. Women represent almost two-thirds of all illiterate adults globally. South Asia is among the regions with the highest illiteracy rate.[1] By 2017, Afghanistan with 38 per cent was the lowest after Pakistan with 58 per cent in educational development while all the other South Asian states have made efforts to reach higher standing. The overall literacy rate of the Maldives is 99 per cent, Sri Lanka 93 per cent, India 71 per cent, Bhutan 65 per cent, Nepal 64 per cent, and Bangladesh 62 per cent.[2]

To look at the education system of South Asia would mean looking at one-fourth of the world's population. According to the

World Bank, South Asia is the fastest growing region in the world in demography. However, at the beginning of the twenty-first century, while progress is being achieved in many sectors including education, the *Human Development Report* has sadly marked South Asia as "the most illiterate region," "the least gender-sensitive region" and "the region with the highest human deprivation" record.[3] It viewed the region as "an anti-education society in the midst of a pro-education Asian culture"[4] with a record of low progress. The overall sustainability of the region's growth can only continue if the countries invest in their youth through education.

Methodology

This study examines Pakistan's educational sector in comparison with other South Asian states. Review of a vast number of national and international papers, policy briefs, statistical reports, research findings, and news articles has been conducted in order to have an in-depth understanding of the education sector of Pakistan and other regional states of South Asia. The purpose of the paper is to bring forth the significance of education and its importance to the policy-makers for Pakistan's future growth and international prestige. The aim is to highlight the weaknesses within and, based on a detailed comparison with the regional countries' education systems, recommend ways to fill the gaps to develop a realisation among policy-makers about the foundational role quality education plays in shaping modern society.

The paper is broadly divided into two parts. The first part examines the present educational situation in Pakistan, outlines its national and international commitments to universal literacy, and the challenges faced by the country to meet the desired global criteria. The section also delves into the reasons why Pakistan is still lagging behind in spite of the efforts it has made in the field of basic education. The second part of the paper evaluates the South Asian

countries' education systems by highlighting the reasons behind their struggle and the leading position they hold over Pakistan in educational development. To conclude, the paper presents recommendations for the country to overcome hurdles in the future to be able to compete in the global market.

Education in Pakistan

Pakistan belongs to a South Asian society, which inherited the societal and cultural complexities of backwardness from colonialism. It is a country with high rates of population growth, poor economic conditions, socio-economic inequalities, and gender disparity, where female education is neglected. The founders of Pakistan realised very early that the task of nation-building is only possible with education and skilled manpower. In 1947, the very year when the country was founded, they convened a National Education Conference that recommended achievement of universalisation of primary education within 20 years.

> The importance of education and the type of education cannot be over-emphasized… there is no doubt that the future of our State will and must greatly depend upon the type of education we give to our children, and the way in which we bring them up as future citizens of Pakistan… we should not forget that we have to compete with the world which is moving very fast in this direction.[5]

The question today is: has Pakistan reached Jinnah's visionary global status of competing with the world and securing the literacy future of its people? Following the first educational conference, much attention was paid to primary education and infrastructure building with necessary resources required for facilitation. Starting with the 1947 national conference, seven national educational policies, eleven Five-Year Plans, and numerous strategies have been proposed and

launched on education. Nevertheless, the desired results in terms of quantity and quality remain unsatisfactory.[6] Pakistan is faced today with increasingly complex educational challenges to counter the needlessly divergent narratives of religious and modern education. It has failed to achieve greater literacy not because it lacks education planning but because it has done lots of planning without adequate implementation.

Pakistan is committed at both the national and international levels to promoting education and literacy via its education policies at the domestic level and by its involvement in the global visionary plans at the international level.

National Commitment to Education

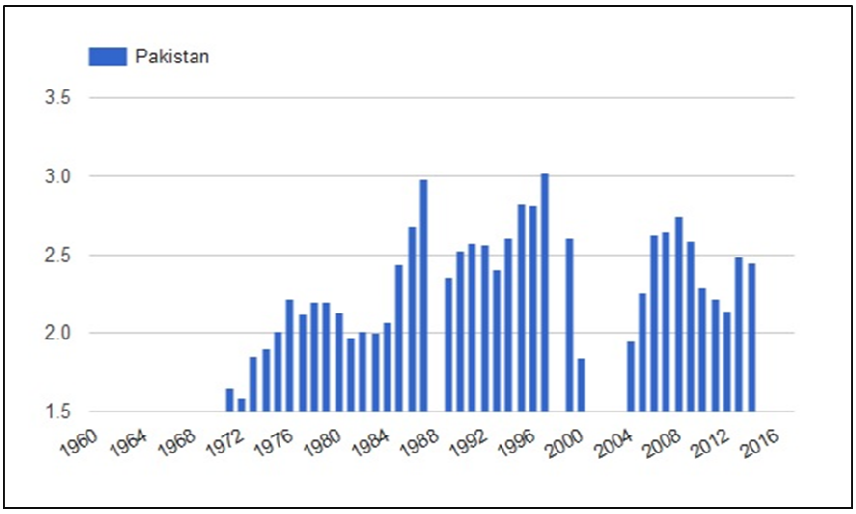
The most recent policy to improve education is a Constitutional Directive of Pakistan under Article 25-A that obligates provision of free and compulsory education to all between the ages of 5 and 16 years and enhancement of adult literacy. With the 18th Constitutional Amendment of 2010, the concurrent list of federal and provincial powers, consisting of 47 subjects, was abolished and these subjects were transferred to the federating units to ensure provincial autonomy, local ownership, and effective implementation. Education was one of the subjects transferred from the centre to the provinces. The decision was taken to hand over a large number of powers, responsibilities, and institutions to the provinces so that they could effectively and efficiently fulfil the educational needs of the people without approaching the federal government for approval.[7] However, since 2010, the ground reality shows only a slight change in the schools of Pakistan. The pervasive problems of access to quality education, infrastructure, and equitable opportunities remain unresolved.[8]

The education system of Pakistan includes all institutions that are involved in delivering formal education, i.e., public and private, for-

profit and not-for-profit, as well as onsite and virtual instruction. It includes faculties, students, physical infrastructure, resources and rules. In broader terms, the system also includes institutions involved directly in funding, managing, operating or regulating such institutions (government ministries and regulatory bodies, central testing organisations, textbook boards, and accreditation boards).

The rules and regulations for supervising the individual and institutional interactions within the setup are also part of the education system. It comprises of about 260,903 institutions, 1,535,461 teachers, and 41,018,384 students. The system includes 180,846 public sector institutions and 80,057 private institutions.[9] In Pakistan, there are 146,185 formal primary, 42,147 middle level (lower secondary), and 29,874 secondary schools. Among them, 75 per cent are public sector schools, 10 per cent private sector schools, and the remaining are almost equally divided between non-formal basic education schools and religious seminaries or madrassahs.[10]

At the national level, the majority of the population in Pakistan has limited access to education and, thus, literacy remains low. Rarely is it seen that the public and private sectors work together, in particular, in rural areas where there are hardly any facilities to avail education. According to the National Education Policy of 2009, public schools, private schools, and religious madrassah have created unequal opportunities for students. The system comprises of elite schools within the public and private sectors, which cater to a small minority, whereas the majority of the students attend lower quality public and private schools with poor curriculum, limited teaching materials, and untrained or at times absent teachers. The policy highlighted a lack of commitment to education at the state level with poor policy implementation, partly due to inadequate 2.7 per cent government spending on education.[11]



Source: "Pakistan education spending, percent of GDP," *theGlobalEconomy.com*, http://m.theglobaleconomy.com/Pakistan/Education_spending/

Pakistan's public spending Gross Domestic Product (GDP) percentage on education from the period of 1971 to 2016 fluctuated from a minimum rate of 1.58 per cent in 1972 and a maximum of 3.02 per cent in 1997, with an overall average rate of 2.34. This is visible in the UNESCO graph reproduced above.[12] Pakistan's GDP spending on education is 2.65 per cent, lower than neighbouring war-torn Afghanistan's 3.24 per cent.[13]

Vision 2030

The federal Planning Commission of Pakistan undertook long-term planning in 2007 that resulted in its *Vision 2030* document.[14] This Plan seeks an academic environment that promotes a thinking mind for building an innovative society. The Planning Commission believed that an innovative society based on universal education would nurture the development of technical skills, especially when fostered in an atmosphere of independent thinking among students for the future socio-economic growth of the country. The prime focus of vision 2030

was to succeed in creating a thinking mind for bringing an instrumental change in the society. It may be added here that Saudi Arabia, in 2016, came up with a similar plan titled *Saudi Vision 2030*.[15] To meet Pakistan's developmental challenges, *Vision 2030* mentioned the following for the education sector:

- "Enhance the scale and quality of education in general and of scientific/technical education in Pakistan in particular.
- Increase public expenditure on education and skills generation from 2.7 per cent of GDP to 5 per cent by 2010 and at least 7 per cent by 2015.
- Generate an environment which encourages the thinking mind to emerge from our schools. Among other things, this would require qualified, and well-paid teachers, whether at the level of the school, the college or the university.
- Establish one curriculum and one standardised national examination system under state responsibility.
- Make employment and employability the central theme in economic and social policies. This will require a major investment in skill generation after 10 years of schooling, and social reforms to draw in women since labour markets are always socially embedded."[16]

To summarise these targets for the education section, one may state that the basic goal under *Vision 2030* was "one curriculum and one standardised national examination system under state responsibility."[17]

International Education Commitment

The global Millennium Development Goals (MDGs), Sustainable Development Goal's (SDGs), and the Education for All

(EFA) movement have been Pakistan's international programme commitments for the promotion of literacy.

MDGs' Universal Primary Education Goal and Pakistan

The United Nations' Millennium Development Goals of 2000 recognised the global importance of universal education, in particular, primary education that was to have been achieved by the year 2015. The MDG's had laid down two goals for the education sector. Goal 2 was "Achieving Universal Primary Education" whose objective was to ensure that both girls and boys should fully complete primary schooling by the year 2015. The need for increasing students' enrolment was expected to be high to achieve the MDGs target. At the global level, the primary enrolment rate between 2000 and 2015 reportedly improved massively from 83 per cent to 91 per cent while the number of the out-of-school dropout rate of children decreased from 100 million to 57 million.[18]

In Pakistan, by 2014 the enrolment indicators for the age of 3- to 16-year students increased with a decreasing dropout rate. Achievements in the four main provinces were that Punjab led in the primary enrolment rate with 62 per cent enrolment by early 2015. The enrolment rate in Sindh was 52 per cent, in Khyber Pakhtunkhwa (KPK) 54 per cent, and in Balochistan, it was 45 per cent.[19] In short, Pakistan moved forward but did not achieve full MDGs in education by 2015. To assess the overall progress and challenges for Pakistan to reach MDGs we may quote an observer:

> To assess overall progress and challenges of Pakistan, the country has been severely lagging behind in Goal 2 of universal primary education and it remains behind in achieving the targets set for 2015 in all of its three indicators. Particularly, the completion and survival rate seems to have declined rapidly in recent years implying that more than a quarter of the students enrolled in primary schools do not complete their education. Pakistan's literacy

> rate, though having improved marginally over the years remains considerably short of the MDG target of 88 percent by 2015 at 58 percent, and closer inspection reveals large gender and rural-urban disparities.[20]

Goal 3 of the MDGs was to "Promote Gender Equality and Empower Women." The aim of this goal was to eliminate gender disparity in primary and secondary education possibly by 2005, and in all the levels of education till 2015.[21] However, there has been an explicit inequality between male and female literacy rates. As per 2012-13 estimates:

> The national literacy rate of males was 71 percent and females was 48 percent. At the provincial level, in Punjab literacy rate of males was 71 percent and for females it was 54 percent, in Sindh for male it was 72 percent and females 47 percent, in KPK males had 70 percent while females 35 percent, and in Balochistan males 62 percent and females 23 percent.[22]

Thus, gender equality in basic education remained an elusive goal in Pakistan.

Sustainable Development Goals (SDGs)

The MDGs were followed by SDGs which had expired at the end of 2015. Therefore, the member states of the United Nations converged in New York for the United Nations (UN) Summit on Sustainable Development during 25-27 September 2015 and adopted the new global goals for sustainable development. The world leaders pledged their commitment to the new '2030 Agenda for Sustainable Development', covering 17 universal and transformative SDGs.[23] Goal 4 aims to "Ensure inclusive and equitable quality education and promote life-long learning." The addition of quality along with school

enrolment indicates a consideration and future target of giving importance to:

> What the child will actually learn. Furthermore, there is an understanding that education is not restricted to literacy and numerical skills. Education includes learning about all the essential knowledge and skills to know the context of what is being taught regarding worldwide views. It is imperative to face global challenges such as extremism. Education has a significant role in positive contribution towards diminishing violence and extremism in the long-term.[24]

The urgent need for Pakistan is to commit itself to the implementation of this goal to tackle growing extremism and intolerance among its people.

Goal 5 aims to "Achieve gender equality and empower all women and girls."[25] In South Asia, generally, an imbalanced trend regarding the education of girls endures. In Pakistan, girls continue to have lower access to primary education. The enrolment rate of girls at the primary level is 4 per cent points lower than the rate for boys at 84 per cent. At the secondary level, the difference widens with an enrolment rate for girls at 68 per cent and boys at 75 per cent.[26] The key reason behind this divergence is societal barriers that favour males at the expense of females and misguided religious views.

The Education for All (EFA) Movement

At the World Education Forum held in Dakar, in the year 2000, 164 governments pledged to achieve EFA and identified six goals to be met by 2015. Governments, development agencies, civil society, and the private sector are working together to reach the EFA goals. Pakistan, as a member of the UN, took part in this UNESCO-sponsored EFA movement. This is a global commitment to provide quality-based basic education for all children, youth, and adults.[27]

The EFA goals emphasise early childhood care and education that includes pre-schooling, universal primary education, and secondary education to youth, adult literacy along with gender parity and the quality of education as crosscutting thematic and program priorities.[28] "The overall progress of Pakistan under the EFA program, the EFA Review Report October 2014 outlined that despite repeated policy assurances, primary education in Pakistan is far behind the estimated target of universal primary education."[29]

As of 2015, the primary gross enrolment rate stands at 85.9 per cent while Pakistan had to raise it up to 100 per cent by 2015-16 to fulfil EFA goals. According to estimates of total primary school-going children of ages 5-9 years, 21.4 million, i.e., 68.5 per cent, are enrolled in schools, of which 8.2 million or 56 per cent are boys and 6.5 million or 44 per cent are girls.[30] The *Economic Survey of Pakistan* recognised that during the year 2013-14 higher literacy rate in urban areas was recorded compared to rural areas and higher among males.[31]

Recent investments in education, research, and infrastructure improved the education environment in Pakistan, though not much has been done at the school and college levels. Statistics to evaluate progress made by Pakistan in achieving targets set in the *Vision 2030* show that Pakistan lagged behind in EFA targets and MDGs for education. The situation compels one to analyse the reasons of Pakistan's failure in achieving these objectives. A suitable recommendation must be made to overcome the reasons for failure.[32]

Reasons Why Pakistan Lags Behind

The major causes of Pakistan's low level of educational progress during the past 70 years have persisted. These are listed below:

- The leading and constant reason is the lack of continuity in government policies;

- Centralised implementation, ending in a defective and uneven application;
- Insufficient budget and non-implementation of policy;
- The education imparted is directionless and not aligned with national needs, causing unemployment;
- Insufficient quality teacher training causing teachers' qualifications, experience, training, and aptitude to lack professionalism;
- Antiquated curriculum and rote learning;
- One big unaddressed area is lack of a uniform education system, causing a wide schism among students and, on a larger front, a nationwide division of society;[33] and
- No official check and no expert observance on madrassah education.

Since the last factor gets the greatest media attention, its discussion is taken first. South Asia is not new to the traditional religious madrassah system of learning. While madrassahs are an important social institution not only in Pakistan but across the Muslim world, it is imperative to understand that there are immense differences between madrassahs. Because of their diverse nature, it is difficult and unfair to brand them all as extremist. Different madrassahs teach differently and the theological approach and content also varies. Not all madrassahs play a negative role.

Some madrassahs take care of unruly children through strict discipline in Quranic learning. Others give succour to poor or orphan children, still others promote peaceful and/or Sufi mysticism, while some madrassahs provide religious and vocational training simultaneously. The traditional Islamic mosque in the entire Muslim world was a whole complex with poor-houses and soup kitchens, *serais* (inns) for travellers, rooms for training in the Islamic rituals of birth, marriage and death, Quran reading rooms, charity outlets for

distribution of Islamic taxes or tributes like *zakat* and *fitrana*, arrangements for marriage, and more. It is, thus, erroneous to stereotype the mosque-madrassah complex.

The actual number of madrassahs in Pakistan remains unknown. Estimates about registered madrassahs range from ten to twenty thousand.[34] A decade-old estimated count about registered and unregistered madrassahs placed the total figure at around 35,000 religious Islamic seminaries all across the country.[35] It may be recalled that Pakistan also has a large number of Christian seminaries. The number of madrassahs has increased to around 45,000 and range in size according to the numbers of students.[36] Overall, however, madrassahs comprise as low as 1 per cent of the education market.[37]

Under the madrassah reform process sanctioned by President General Pervez Musharraf's government (2001-2008), religious seminaries were required to register with the government and make their financial records public.[38] However, only a fraction of madrassahs agreed to be registered while the majority simply ignored the ruling. There was no punishment imposed in case of noncompliance.[39] Unfortunately, little has been done by successive governments to implement these reforms.

The government and Pakistan's military received a huge jolt when seven foreign terrorists (Afghan, Chechen, and Arabs) carried out a concentrated attack on 16 December 2014 on the prestigious and well-protected Army Public School in the heart of the Peshawar cantonment. Nine teachers and staff and 132 schoolchildren between ages eight to eighteen died while the Army rescued 960 others.[40] This led to Pakistan formulating the National Action Plan (NAP), the country's 20-point strategy to combat extremism.[41]

Previous educational reform plans include the National Education Policy (NEP) of 2009 that pointed out a lack of state commitment to educational development and failure of policy implementation. Government spending on education has hovered

around 2.7 per cent of the gross domestic product (GDP), which is very much on the low side.[42]

Lessons from South Asia

Religious Extremism in Sri Lanka

To avoid such negativity, Pakistan must learn from the experience and struggle of Sri Lanka, the way it overcame and transformed the extremist mindset. Sri Lanka effectively dealt with the misled and propagandised education in the underdeveloped areas where the less educated people became prone to violence. Despite many challenges, Sri Lanka was successful in rehabilitating an impressive number of leaders and members of the Liberation Tigers of Tamil Eelam (LTTE), one of the most ruthless insurgent and terrorist organisations in the world. Sri Lankan armed forces not only defeated the insurgents but the state also developed a multifaceted program to rehabilitate a large number of surrendered or captive Tigers. The post-conflict strategy adopted by Sri Lanka can be followed by Pakistan in its National Action Plan (NAP) to prevent recidivists from radicalising young generations.[43]

Rehabilitation and community engagement is a new global frontier against ideological extremism and its vicious manifestation. Sri Lanka built working partnerships with communities, media, academia, and government to mainstream those who had deviated into ideological extremism due to varied reasons. Sri Lanka has the most developed program to facilitate this transformation of thinking referred to as the '6+1 model'. The first mode of this model focused on education and then other significant modes came in focusing on vocational, psychological, and creative therapies as well as social, cultural, family, spiritual, religious, recreational, and community rehabilitation.[44]

Sri Lanka judiciously embraced a well-crafted legal framework for rehabilitation based on its own rich traditions of tolerance,

moderation, and coexistence with communities the country had lived together for centuries similar to what Pakistan had been historically. The recruited Tamil Tigers were mainly from poor and under-aged groups who had either not completed their education or failed to achieve the country's national standard of completing the General Certificate of Education, Ordinary Level Examination, which requires ten years of study. Hence, the main aim of the rehabilitation program was promoting education. The programme provided linguistic education in terms of both reading and writing, formal education to beneficiaries less than 18 years of age within a residential school environment, numerical skills, as well as informal education within each rehabilitation centre. Through education, Sri Lanka engendered the realisation among recipients that growth and development of society among multi-ethnic and multi-religious culture is individual and community strength and is only possible in the absence of extremism.[45]

Religious Extremism in the Maldives

> The remit of the Ministry of Education is clear: to create a population with deep spiritual and cultural connections to Islam and an appreciation of the history and heritage of the Maldives; a population equipped with the social skills to function as productive and engaged citizens; trained as independent thinkers; and with the ability to lead dignified and compassionate lives as responsible members of a global society.[46]

The Maldives has, thus, taken head-on the possible problem of religious extremism and successfully nipped this evil in the bud. The Maldives is an archipelago of 1,190 coral islands in the Indian Ocean with geographic and demographic challenges. These serious challenges did not impede the high-value the Maldivians attached to the significance of education by investing in people, which it believes

is a preeminent method of promoting human rights and a brighter future for generations by ensuring consolidation of the democratic gains achieved. The country has instituted educational reforms that focus primarily on the people. The main motor for reform in the Maldives was its first written Constitution of 1932 and its strict compliance.[47]

By endorsing education as a universal human right, the Maldives became the first country in the region to provide 12 years of compulsory education and 14 years of free schooling to all students. The central goals of education are the empowerment of children, empowerment of youth, and empowerment of women. The free education for all children in the Maldives offered by the government is from the age of 4 to 18. With remarkable progress in education, the adult literacy rate has reached over 98 per cent. Early childhood education is not only compulsory but free of charge as well, ensuring net enrolment increase from 51.2 per cent in 2001 to 99.6 per cent in 2016. Higher secondary enrolment has considerably increased over the period of 2013 to 2016 after the successful implementation of 'No Child Left Behind Policy'. Within South Asia, the Maldives has attained the status of 'MDG Plus' country by achieving five of the eight United Nations Millennium Development Goals well ahead of the decided timeline of 2015, successfully possible only with the educational achievements.[48]

The Maldives' exceptional progress is due to the fact that it spends 5.7 per cent of its GDP on education. The 98 per cent literacy rate of the Maldives is the highest in South Asia and in the Indian Ocean region. About 35 per cent of the population in the Maldives is under 18 years of age and the government is seriously investing in the education of its young population. Schools are divided into three types: the English language for primary and secondary, Quranic schools, and Dhivehi language primary schools. The Ministry of Education manages colleges and universities in the country.[49]

Traditionally, religious leaders and institutions were responsible for education in the Maldives. The Quranic or religious pattern schools were called 'edhuruge', and today even though the British educational system is followed there are several modern schools that continue to teach Arabic and Islamic education. The educational curriculum is designed to balance both the cultural and religious values in students as well as acquire skill-based learning to compete in the global market.[50]

These two examples of successful South Asian literary efforts to thwart extremism came from predominantly Buddhist and Islamic countries. With the assistance of UNICEF, the Sri Lankan government promoted 'Education for Conflict Resolution (ECR)' programme in the syllabus with methods designed to suit the cultural requirements of Sri Lanka. It trained not only the teachers and students in the methods of articulating but also integrated the parents as a part of the community. Lessons that Pakistan can draw from Sri Lankan ECR are to incorporate such programmes in the national curriculum to learn the way communication between teachers and students could be built up to create an understanding of how a community deals with conflictual situations and functions as a whole in planning out solutions from very early ages.[51] Similarly, to counter the aggressive religious approach, in 2015-16, the Maldives government supported numerous workshops around teaching 'moderate Islam' to religious scholars to counterbalance extremist narrative. A religious discourse was established by the Ministry of Islamic Affairs for different groups of students. Hence, Pakistan has a proficient example of the Maldives in controlling extremist religious notion among the young minds through establishing an official channel of religious education to impart rightest Islamic teachings and dialogue among the scholars and students.[52]

Other Lessons from South Asia

Maldives

The Maldives also achieved gender parity by 2008 at different levels of education. Since 2010, higher secondary enrolment for both females and males has increased significantly. While sustaining this level of progress is a challenge, especially due to heavy reliance on expatriate teachers and lack of physical space caused by geographic dispersion, the reforms initiated in this respect are committed to the implementation of a new school curriculum with a distinctive focus on skill development, enactment of school-based management and monitoring systems, diploma requirement as a minimum qualification for teachers, etc. Furthermore, the education system has been looking into strategies to improve utilisation of enabling platforms like e-learning in schools and children's health and protection.[53]

Teacher training is further responsible for the Maldives' high literacy rate of 98 per cent. 'Peer-to-peer' training of teachers is carried out with a high-tech information sharing system. Teacher Resource Centres have also been established in the country. Child-friendly teaching methods based on a self-sustaining and participatory network to build educational collaboration in the Maldives have been so effective that many communities have joined voluntarily.[54] Programmes encouraging the active involvement of caregivers in children's learning, revision of curriculum to reflect national development precedence and inventive knowledge-sharing at both national and local levels have been carried out.[55]

Several vocational training centres and schools are founded throughout the islands. For instance, a centre in Male offers training in technical subjects. The Maldivian government maintains a Rural Youth Vocational Training Program and provides training in atoll localities. Other schools in the country include the Maldives Centre for Social Education, Maldives Institute of Technical Education, Science Education Centre, and Arabic Islamic Education Centre.[56]

Due to the geographical nature of environmental disasters, UNICEF and the Ministry of Education created tsunami recovery programs that have boosted development, elevated the educational standards nationally and assimilated schools in dispersed areas of the islands.[57] Key achievements of the system by the end of 2004 were that within a month of a disastrous tsunami, all students in the Maldives were back to school. Children in IDP camps and tsunami affected schools even received school supplies, and more than 400 educators along with parents were trained in child-friendly education.[58] In short, the Maldives turned a national emergency into a huge successful educational achievement.

The lessons Pakistan can draw from the Maldives are their successful implementation of 'No Child Left Behind Policy'. This policy placed a special emphasis on gender parity. Pakistan should have such innovative policies for every citizen by focusing on empowering children, youth, and women. The Maldives, despite ecological and natural calamities and vulnerabilities, managed to have higher budgetary spending, which is the key to its achievement of universal literacy.

Sri Lanka

The reasons behind Sri Lanka's achievement in reaching literacy goals by bringing down illiteracy figures from about 43 per cent to less than eight per cent are due to consistent policy priorities dedicated to education. The country-wide reforms and political will at the topmost level is precisely what the international community urges countries to exhibit. This was observed when, in 1997, the Sri Lankan General Education Reforms were introduced in basic education designed mainly to benefit all children and political entrepreneurship at the Presidential level. The international development community hailed Sri Lanka's literacy achievements, educational enrolment, and equality of educational opportunity. Sri Lanka introduced major policies of EFA periodically under different terms. During the 1940s,

the Free Education Bill was promulgated based on the right to education and decreed tuition-free education from basic education to university. From the 1980s, policies of free textbooks, school uniforms, meals, and transport made Sri Lankan education one of the most accessible among the developing nations.[59]

In 1946, when Sri Lanka became independent from Britain, the literacy rate stood at 57.8 per cent, with female literacy rate at 43.8 per cent and male literacy at 70.1 per cent. Within 60 years, Sri Lanka had achieved a literacy rate of 92 per cent even though the development of the country suffered due to nearly three decades of civil war and insurgencies. Access to education remained high in comparison with other regional countries. The education of children in the country was not cut off. The C.W.W. Kannangara reforms of 1943, which introduced a free education system played a significant role in building the education system of Sri Lanka. These reforms established a system of education based on merit and opened education to every Sri Lankan child irrespective of race, caste, gender, or religion.[60]

While a fee-levying system of education was implemented nearly four decades ago by President Jayawardene's government, the free education policy in the country via fully government-run schools called 'government schools' continues till today. According to the World Bank statistics, the budgetary allocation in Sri Lanka dropped between 2009 and 2014 from 2.054 per cent of the GDP to a low of 1.497 per cent in 2012, but it once again increased in 2015 to 2.17 per cent of the GDP. The development of a private education system in recent times has not impacted adversely on the system of free education.[61]

Sri Lanka has been instrumental in coming up with an idea of establishing the Open School Programme which is a product of the National Institute of Education based in Colombo (Maharagama), functioning since 2007. The National Institute of Education was one of the winners of the 2015 UNESCO King Sejong Literacy Prize. The

program runs nationwide access to sustainable and learner-led quality education that targets poor and marginalised children who drop out of formal schooling and fills other gaps too. The aim was to include groups such as women, the mentally and physically disabled, prisoners, indigenous people, and minorities, and also ensured to include the environmental lessons of Sustainable Development Goals (SDGs).[62]

The Open School Programme works at primary, secondary, and tertiary levels mainly with farming and working communities providing different options to those who lack recognised basic qualifications. The program follows a very informal system to learning with flexible working routine and no classroom conditions, teachers meet with learners at a convenient time around their work times and the study is supported by work plans and self-learning materials. The program basically focuses on literacy and livelihood to empower learners to not only complete vocational courses and programs but also to become part of work with sustainable development knowledge. The Open School Programme was nominated for the UNESCO Japan Prize on Education for Sustainable Development (ESD) in 2017.[63]

The focus on education in Sri Lanka has transformed its people into law-abiding citizens, women empowerment, and social and cultural inclusiveness, where all beliefs and ethnicities communicate in a modest way. The youth in Sri Lanka will be replacing the elderly labour force while women empowerment in the government and economic sectors is highly visible. This prosperity is all because of education. Sri Lanka has invested in the Education for All policy with persistent commitments towards achieving a high literacy ratio uncompromisingly despite a long-running civil war. Pakistan can learn from Sri Lanka's compelling policy examples and implement them to similarly achieve universal literacy.[64]

Sri Lanka's successful example for the rise in its literacy levels was based upon its innovative venture of the Open School Programme. In addition, its remarkable rehabilitation of insurgents is a role model for Pakistan to learn from, adapt, and adopt. The efforts made in the transformation of extremist mindsets in Sri Lanka is a laudable achievement reached through establishing high-level educational programmes in rehabilitation centres.

India

Similar to the youth boom in Pakistan, more than 100 million young people in India are expected to enter the workforce by 2022.[65] Lately, India under the Modi government saw less budgetary allocations for education which raised critical voices from within the country. The budget estimates dropped from one per cent of the country's income in the government's first Budget in 2014-15 to 0.62 per cent in 2017-18. The share of education in the budget has also been slashed from 6.15 per cent to 3.7 per cent. The New Delhi-based think tank Centre for Policy Research (CPR) reports that the Sarva Shiksha Abhiyan, a national program for universal elementary education, saw its total allocation dropping to 29 per cent in 2017-18 from 31 per cent in 2016-17, two per cent less than the previous year.[66]

However, despite budgetary cuts, India is far ahead of Pakistan in every field of education. Notable reasons are the streamlined efforts of the previous Indian government, which increased the higher education budget five-fold by allocating more than one thousand billion rupees for the year 2012-13. In comparison to Pakistan's spending on education, Indian monetary allocation was 40 times more than what Pakistan allocated for the education sector in the last decade. Higher education enrolment in Pakistan is eight per cent whereas in India it is 18 per cent. Research in India has acquired central prominence in all the public and private universities and the government has extended its assistance in this regard. The federal universities have even allocated monthly stipends to PhD scholars.

Both the official and private level support of various organisations is there, like the Indian Council for Social Sciences and Research (ICSSR) where the Indian prime minister is the council chairman,[67] All India Council for Technical Education (AICTE), Council of Scientific and Industrial Research (CSIR), Defence Research and Development Organisation (DRDO), Science and Technology for Weaker Section (STAWS). STAWS aims at promoting research and development knowledge expertise based on science and technology in improving the life quality of weaker communities.[68] It also provides financial support for promoting excellence in research development at higher education levels in various disciplines.

In 2015, the UN reported that seven out of every 10 Indians, 15 years and above, could read and write short sentences with understanding related to their daily routine. The literacy figure has risen 30 per cent since 1980 when, according to the available data, four of every 10 Indians were literate. Back in 1950, only two in every 10 Indians, five years and above were literate according to the first independent Indian Census where literacy was defined in terms of anyone who could write a letter and read the reply. India made more progress between 1980 and 2015 according to the data from UNESCO. The gap between India and Pakistan has increased with time.[69]

Indian think tanks have promoted education and academic analysis in general. The seventh annual *2013 Global Go-To Think Tanks Report*, ranked six Indian think tanks among its 150 top global think tanks. India was reported to have the fourth largest number of think tanks after the US, China, and the UK. This index helped India to be recognised as one of the leading centres of excellence in public policy research across the world. India's Centre for Civil Society (CCS) ranked at 50th on the list, followed by the Institute for Defence Studies and Analysis (IDSA) on 102, the Indian Council for Research on International Economic Relations (ICRIER) on 105, The Energy and Resources Institute (TERI) on 107, Observer Research Foundation at

114, and Development Alternatives at 140.[70] Numerous other think tanks help raise educational standards in India.

Think tanks for research and education need not be a financial burden on the government. Everywhere in the world, think tanks are funded and supported by different groups ranging from influential political circles, economic, ecological, rightist and leftist lobbies, etc. In terms of foreign affairs, the Indian government has utilised policy-making think tanks as a productive source of diplomacy to reach out effectively to the world. Institutions like the Institute of Defence Studies and Analysis (IDSA) and the Indian Council of World Affairs (ICWA) have government backing.[71] India made inroads through soft power diplomacy with the utilisation of these academic platforms to overcome diplomatic hiccups between states to benefit from the energy, economic, and security partnership cooperation.

The informal diplomatic space Indians received because exchanges between think tanks of ideas and policy preferences with area experts, analysts, and leaders at multilateral conferences have been an excellent tool to devise like-minded strategies and solutions to common challenges, including in the field of literacy, basic schooling and higher education. Even for long-standing conflicts, think-tanks are facilitating dialogues and conflict-management discourse to generate a cooperative environment at both the state and national levels. Prominent dialogues where top Indian policy-makers have taken part are Raisina Dialogue, Gateway of India Dialogue to have multilateral geo-economic talks, India-China Think Tank Forum between Indian and Chinese think tanks for discussing regular exchange of science and technology and cooperation on cyber-security issues, Bangladesh-China-India-Myanmar Economic Corridor (BCIM), etc.[72] Leading academics at these think tanks do research, conduct dialogues, and help form policy that raises overall education levels.

In India, when government support is lacking, there is an emerging role of business houses supporting think tanks like The Energy and Resources Institute (TERI), Observer Research Foundation (ORF), etc.[73] The ORF is supported by the Reliance business group and the Atlanta Aspen Centre is funded by a group of business leaders. By going global, foreign think-tanks of the highest ranking have also started setting up their houses in India. Brookings have their India office supported by rich Indian business leaders and Carnegie India[74] is founded as well. The ORF led Indian think-tanks in Asia in the Global Go-To Think Tank Index Report and became the largest ranked institution from Asia with 25 appearances in various categories in 2017.[75] Indian intellectuals are globally recognised as they emerge from the sound educational setup at the basic and higher education levels.

The image building and seriousness of India to advance its aspirations of being a leading power by engaging with foreign influential leaders and policy-makers through education and think tanks is noteworthy. Pakistan, on the other hand, is far behind in this race to challenge India and to put its own point of views across. Among 211 South Asian think-tanks mentioned in the "2014 Global Go-To Think-Tank Index," only two think tanks from Pakistan, the Sustainable Development Policy Institute (SDPI) and Pakistan Institute of International Affairs, made it to the top 20. India had 192 think-tanks and Pakistan only 19 which made it to the index. SDPI was ranked at 38 for being trans-disciplinary and 55 in the list of think-tanks to be watched in the future for policy analyses.[76]

Lessons for Pakistan from Indian educational strategy is their smart tapping of resources in presenting themselves as an idyllic global partner to the world. India, similar to Pakistan, has a fluctuating political will as far as spending more on education sector is concerned. Nevertheless, it remained consistent in funding and supporting the research side of the field. Research, covering economic, scientific,

space, geopolitics, strategic and security fields secured eminence for India from the start in the field of education. In modern times, it has become a lucrative policy tool for New Delhi to partake in global competitiveness with its expertise in its skill-based industry. This has made the country a policy hub for the world at large. India's lessons for Pakistan may be summarised in the words of Dr Nizam, Vice Chancellor of the University of Gujrat, Pakistan:

> India is far ahead of us because it invested in Engineering, IT, and Social Sciences sectors long ago. Both the states and central government spend funds on education. They do not have a trend to have PhDs from abroad because they have dozens of PhDs in every university. Pakistan has more youth and if no investment is done on them, an unskilled nation would be left after 30 years which will be a burden on the economy. So Pakistan has to invest in them through education. At the moment Bangladesh, Nepal and Bhutan are spending much more on education as compared with Pakistan. The only way out is that Islamabad has to understand that spending on education is an investment and not an expense. So we should spend 4 percent of the GDP on education.[77]

Nepal

A World Bank study carried out on Nepal's education system showed that there is a strong correlation between educational attainment and individual earnings and between mothers' education and fertility rates, child nutritional status, and morbidity.[78] This is all due to the major educational reforms Nepal commenced after 1990, which largely focused on basic and primary education. The autocratic regime of the Rana dynasty in Nepal (1846-1951) had discouraged education and by the time it ended in the 1950s, there were only 9,000 students enrolled in 321 primary schools. In 1953, the National

Education Planning Commission (NEPC) was formed, which led to the founding of a number of boards, commissions, committees, and plans for the reforms and development of the national education structure. This brought a progressive shift in the evolution of the education system. The significance of promoting educational access to all Nepali citizens was evident by the genuine efforts of NEPC for introducing reforms based on the gathering of public opinion. Representation of different ethnic communities in the Commission and the sending of missions to eight different regions in order to supervise the public discussions proved its dedication towards education development.[79]

In 1992, the National Commission recommended five years of primary education, at least one female teacher in primary school, primary education to be imparted in the mother tongue, and private sector education. Moreover, the issue of equity in education was explicitly mentioned by the Higher Level National Education Commission in 1998. It recommended special treatment for socially, economically, and geographically backward people. Emphasis was placed on special and non-formal education and an effective regulatory framework for private boarding schools. In 2001, three core issue areas were identified by the high-level working committee, i.e., low quality of public schools, poor implementation of free primary education, and the lack of an effective regulatory private schools framework. The education reforms are largely based on centralised top-down management and the commission model of public sector reforms. It has not only created an expansion of basic and primary education but over the past years' impressive progress has been achieved in increasing the literacy rate. From 321 primary schools in 1951 to 24,943 in 2001, and literacy rate from less than five per cent in 1951 to 54 per cent in 2002.[80] around 65 per cent in 2015.[81]

The 7th amendment of the Education Act in 2001 has been a major breakthrough for education reforms in Nepal. The reforms in the Act included free education limited to primary education sub-sector,

teacher licensing system, cost sharing in secondary education, empowerment of school management committee, parental direct involvement in school management committee, discouraging teachers' involvement in direct politics, regulatory framework for private institutions, establishment of rural education fund (resources raised from private schools), and provision of village committee for regular monitoring.[82]

Nepal has gone through a decade-long conflict and other political challenges, though it made remarkable progress in education opportunities for children and adults. Since 1990, net primary school enrolment rates have increased from 64 to 96 per cent, with near gender parity. The government of Nepal with the assistance of development partners developed the School Sector Development Plan (SSDP) for 2016 to 2023 in line with Nepal's vision of upgrading its status from the least developed country by 2022. The SSDP supports Nepal's international commitment to achieve SDGs, in particular, the SDG 4 to ensure equitable and inclusive quality education and promoting lifelong learning opportunities for all.[83]

Keeping pace with the economic and global commitments for spending 20 per cent of a nation's budget on education, the government of Nepal laid a prominent focus on education. The new budget for the Fiscal Year (FY) 2018-2019, has allocated 10.19 per cent (Rs. 134.5 billion) of the total budget to the Ministry of Education, Science, and Technology. The previous year, the budget was 10.09 per cent. The budget foresees the development of a technical school across all local bodies along with goals of free and compulsory school education gradually, access to faster internet across every public school, and achieving 100 per cent literacy rate in two years.[84]

Pakistan must learn and consider the smart policy initiative taken by Nepal while outlining educational reforms on the basis of its public demands in education. Reaching a consensual education policy ensures progress, specifically through community involvement and

high budget allocations. It also ensures ownership as people become involved through their opinion in the policy-making process, actively oversee the programs and ensure effective implementation.

Bangladesh

Over the past few decades, economic growth, poverty reduction, and human resource development have been basic priorities of the Government of Bangladesh. These priorities are only achievable with educational development. The government focused on basic education covering primary education (grades 1-5) and non-formal education, extended later to cover secondary education (grades 6-8). During the early 1990s, only 35 per cent of the adult population in Bangladesh was literate with a disparity between males and females, as well as between urban and rural areas. Bangladesh experienced a high dropout rate as well.[85]

The poor education system transformed with the implementation of the 2004 Dakar EFA during the early 1990s, which provided assistance from various development partners. In 2003, Bangladesh upgraded EFA to a national action plan, part of which aimed at eradicating illiteracy by 2000 (subsequently altered to 2006 and then to 2015). This program was consistent with the Millennium Development Goals (MDGs), which had intended to halve poverty and achieve Human Resources Development (HRD) improvements by 2015. With continued efforts by both the government and development partners, Bangladesh's universal Gross Enrolment Ratio (GER) has almost been achieved, including gender balance, though the institutional capacity and quality aspects still remain fragile.[86]

With respect to the EFA program, Bangladesh saw a significant improvement in all of the six EFA goals despite many challenges. Bangladesh has an enormous education system to cater to its huge population "comprising some 150,000 institutions, about 40 million students and more than one million teachers."[87] The primary and secondary level institutions along with the state recognised

madrassahs are also there.[88] Bangladesh's Ministry of Primary and Mass Education (MoPME) is responsible for primary education (grades 1 to 5), and the Ministry of Education (MoE) supervises secondary and post-secondary education.[89] As found by Choudhary and Rahaman,

> Basic education development in Bangladesh is governed by the Compulsory Primary Education Act 1990, EFA National Plan of Action (NPA) I and II, National Non-Formal Education Policy 2006, National Education Policy 2010, National Skills Development Policy 2011, The Sixth Five Year Plan (2011–2015) including Vision 2021/Perspective Plan 2011–21. Various initiatives in basic education like Primary Education Development Program (PEDP) 1 and PEDP 2 were implemented and PEDP 3 has been under implementation to fulfill the relevant EFA Goals and NPA II objectives.[90]

The Dakar Framework for Action with six main goals put forward twelve major strategies towards achieving EFA which Bangladesh endeavoured to accomplish in line with the country's constitutional compulsions and the commitments made in international forums. As a result, Bangladesh has been commendably successful in expanding education opportunities including increased enrolment, reduction in gender parity, and dropouts with a focus on poverty alleviation, though many challenges for achieving a knowledge-based society and becoming a middle-income country still remains to be addressed.[91] To quote Choudhary once again:

> Over the last few years, Bangladesh has made significant progress in early childhood education. The "Pre-Primary Education Operational Framework" was approved by the Ministry of Primary and Mass Education (MoPME) in 2008, to effectively implement one-year pre-primary education for all children of five to six years of age. The database of the Directorate of Primary Education (DPE) reflected that

> 2,002,624 children were enrolled in pre-primary classes in 2012, 3,141,104 in 2013 and 3,088,460 in 2014. Among the children enrolled in 2014, 1,581,605 were boys and 1,506,855 were girls. These were in line with the EFA target of achieving pre-school participation by 55 percent of the target group by the year 2015. … In order to ensure that all children receive universal education i.e. access to free and compulsory quality-based primary education, particularly girls, children from difficult situations and belonging to ethnic minorities.[92]

In 2003, the gross enrolment rate was 108.4 per cent (112.3 per cent girls) and the net enrolment rate was 97.7 (98.8 per cent girls) in 2013.[93] Choudhary and Rahaman are worth quoting yet once again:

> The number and proportion of out-of-school children reduced significantly over the past decades. The dropout rate has been reduced from 47.2 percent in 2005 to 20.9 percent (girls 17.5 %) in 2013."[94] "The net enrolment rate in primary education for both the genders reached 97.3 percent in 2013 with 96.2 percent for boys and 98.4 percent for girls. While in secondary education, the net enrolment rate reached 49.72 percent with 54.44 percent for girls and 45.25 percent for boys in 2012. Secondary education enrolment in Bangladesh has more than tripled and the number of institutions has more than doubled since 1980. The growth of girls' enrolment, stimulated by social mobilisation (often initiated by NGOs) and incentives, offered by the government such as stipends and tuition waivers for rural girls, has been spectacular. Data show that girls have outnumbered boys in secondary schools …. to 95 percent compared to 84 percent in the case of boys."[95]

Bangladesh at present is in the process of implementing a comprehensive National Education Policy of 2010 to achieve its

committed objectives.[96] We may continue with the analysis provided by Choudhary and Rahaman:

> NGOs have been contributing to Bangladesh's education sector…. Community-based NGOs are giving early childhood education to the underprivileged and disadvantaged children. The Government is also administering mosque and temple based early childhood education for the three to five-year age group. The Ministry of Religious Affairs (2010) claimed that in a two-year course they provided pre-primary education to 161,220 children through 2,687 centers. In addition, the Ministry also introduced and managed 24,000 mosque-based early learning centers for four to five-year-old children serving some 700,000 children of that age each year.[97]

To compete with the global innovative market, skilled-based education has become a focal area. By the end of 2016, according to a World Bank report:

> 345 academic grants had been awarded to 27 public and nine private universities, 10 university-industry collaboration grants had been awarded to boost innovation. The Bangladesh Research and Education Network, a dedicated high-speed connectivity for the purpose of education and research, was made functional at the University Grants Commission (UGC) and in 35 public and private universities. The UGC digital library also became operational, providing 42 member universities and two research institutions access to over 30,000 e-resources. A mechanism for quality assurance in education was also introduced through the setting up of Institutional Quality Assurance Cells in 61 public and private universities.[98]

With regard to budgetary allocations, Bangladesh was neglecting educational requirements. However, it has been changing with the government's vision of prioritising the up-gradation of the education and technology sector for higher literary development. According to another report:

> The proposed budget for the 2017-18 fiscal year allocated Tk 65,444 crore (approximately US $8.23 billion) as compared with the previous year's 11.6 percent of the total budget for education. The total allocation for the Ministry of Primary and Mass Education and the Ministry of Education alone has been Tk 50,432 crore (approximately US $6.34 billion), which makes 12.59 percent of the total budget. The government allocated, Tk 22,022 crore (approximately US $2.77 billion) for the ministry of primary and mass education, Tk 23,141 crore (approximately US $2.91 billion) for the secondary and higher education division, and Tk 5,269 crore (approximately US $0.66 billion) for the technical and madrasah education division under the education ministry. While objections over budgetary allocation had been raised among the experts and called for at least 20 percent education sector allocation in the national budget, the government introduced plans for building interactive classrooms in 503 model primary schools to enhance both capacity and quality in the primary education sector. Plans for the expansion of science-based higher education and research had been focused with considerations of providing fellowships to scientists, technologists and researchers under the Bangabandhu Science and Technology Fellowship Trust. A special allocation for expanding research opportunities, Tk 200 crore (approximately US $0.25 billion) was proposed as well.[99]

Pakistan is not ignorant of the population boom in Bangladesh and the frequent pressures it experiences due to ecological

misfortunes that absorb the country's finances. However, the lesson for Pakistan is that despite domestic pressures, by 2003 Dhaka integrated the EFA with its National Action Plan, and made improvement in all six EFA goals. There is a willingness in Bangladesh to focus on the research sector and at higher levels of education. The education budget has been increased and quality mechanism cells have been set up at both public and private universities to ensure quality education.

Overall, therefore, not disregarding the efforts of Pakistan's HEC in trying to increase the number of skilled persons in the country, the attention given to and amount spent on education in the neighbouring South Asian countries of Pakistan should not be ignored. Hence, the persistent rational approach adopted by the South Asian countries to make themselves valuable to the international community is a good reason for Pakistan to observe and step in while developing its education sector.

Policy Recommendations

Pakistan has a strong policy framework in the education sector, though, an all-inclusive and wide-ranging action plan is required to be implemented. Some policy recommendations are suggested below. These are based on the current status of Pakistan's education system. They are also made in the context of lessons learnt from its South Asian regional neighbours.

1. The government must introduce a uniform curriculum in all schools as a first step towards implementing a uniform education system in the country where no areas are left behind. This will provide equal opportunity for students residing in rural areas to compete with urban areas' students on an equal basis.
2. Community involvement in policy making (as in Nepal) will rectify poor policy implementation. When policy-makers and

its implementers participate together in and after the planning process, they would collectively ensure meeting targets through individual and institutional collaboration, including parliamentarians, NGOs (as in Bangladesh), and (as in India) independent research think-tanks.

3. Teaching must be developed as a dignified profession where the role of teachers as moulders of heart and mind must be established and teacher absenteeism eliminated. Teachers should have similar training programs, improved teaching materials, and skill development exposure as in various corporate fields, including upgrading of the basic services for both teachers and students, particularly in the public sector.
4. An increase in budget allocation for educational developmental projects is imperative. This would achieve the MDG of 'no child left behind'. South Asian examples, as mentioned earlier, are the Maldives with its 5.7 per cent budget allocation, India with its previous 6.5 per cent, Nepal's present 10.19 per cent, and its hi-tech teacher training.
5. The government must create public and private schools focusing on delivering quality education to become an alternative to madrassahs cultivating extremism. Like Sri Lanka's 6+1 model became a successful alternative against extremism.
6. Balancing growth at the primary level with growth at the higher levels of education should be the priority.
7. The National Education Policy of 2009 may be implemented to arrest falling education standards because of the private sector's commercialisation of schools into money generating businesses. Its main propositions were increasing education spending to 7 per cent of GDP; increase public-private partnerships; introduce subjects taught in regular schools also in madrassahs; increase teacher training, enact curriculum

reform, and improve teaching aid materials; introduce food-based incentives to increase enrolment and improve maintenance, especially for girls.

8. Diverse educational platforms can be utilised to develop skills needed to compete in the global knowledge economy. Pakistan could learn from Sri Lanka's Open School Programme for vocational training.
9. While following global trends in education, cultural factors must be recognised as an asset and preserved to strengthen a strong national identity. As in the Maldives, the focus must be based on knowing and consolidating the inherited multi-religious, multi-ethnic, multi-linguistic, and multi-cultural heritage to regenerate pride in national diversity.

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ENERGY DYNAMICS OF CHINA-PAKISTAN ECONOMIC CORRIDOR (CPEC)

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Abstract

Energy security is essential for the economic development of a state. At present, Pakistan is facing an energy shortfall of 6,000 to 7,000MW. This chronic scarcity has severely affected social lives and economic activity in the country. Energy is the pivot of the Belt and Road Initiative (BRI), with an estimated total investment of $4 trillion. China-Pakistan Economic Corridor (CPEC), an integral part of the BRI, is an investment of $62 billion. CPEC apportions $34 billion for the energy sector. Institutional management of CPEC energy will help mitigate the causes of scarcity of energy in Pakistan. Energy portfolio of CPEC is based on coal, hydroelectric, solar, and wind power. Energy production under CPEC is focusing on renewable energy sources alongside non-renewable sources to ensure an affordable, sustainable, and reliable energy mix. This paper argues that cheap energy through CPEC will help address the issues of circular debt. Through CPEC energy projects, Pakistan's reliance on both expensive furnace oil and seasonal hydropower will be diversified towards renewable energy technologies. The paper further argues that CPEC energy projects will boost the energy sector of Pakistan by addressing energy scarcity and improving the socio-economic condition of the country.

Key Words: *BRI, CPEC Energy, Theory of Institutions, energy crisis, energy crisis management.*

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چین پاکستان اقتصادی راہداری میں توانائی کے محرکات

سید وقاص حیدر بخاری، مسرت جبین اور قائم رضا جعفری

خلاصہ

ریاست کی اقتصادی ترقی کے لیے توانائی لازم وملزوم ہے فی الوقت، پاکستان کو۶،۰۰۰ سے۷،۰۰۰ میگاواٹ توانائی کی کمی کا سامنا ہے یہ دائمی کمی ملک کی معاشی اور سماجی سرگرمیوں کو بُری طرح متاثر کر رہی ہے۔ توانائی، بیلٹ اور شاہراہ (BRI) کا محور ہے، جس پر سرمایہ کاری کا تخمینہ ۴۰ کھرب ڈالر ہے۔ چین پاکستان اقتصادی راہداری (CPEC)، BRI کا لازمی جُزو ہے، جو کہ ۶۲ ارب ڈالر کی سرمایہ کاری ہے۔

سی پیک میں ۳۴ ارب ڈالر توانائی کے شعبے کے لیے مختص کیے گئے ہیں۔ پاکستان میں توانائی کی کمی کی وجوہات دور کرنے کے لیے سی پیک توانائی کی ادارہ جاتی انتظامیہ کی مدد کرے گی۔ سی پیک کی توانائی کا دارومدار کوئلے، پن بجلی، شمسی توانائی اور ہوا سے توانائی پر ہے۔ سی پیک کے تحت توانائی کی پیداوار کے لیے توانائی کے ناقابل تجدید ذرائع کے ساتھ ساتھ قابل تجدید ذرائع کو عمل میں لاکر سستی، پائیدار اور یقینی توانائی کے حصول پر توجہ دی جارہی ہے۔ اس مقالے میں بتایا گیا ہے۔ کہ سی پیک کے ذریعے کم خرچ توانائی کا حصول گردشی قرضے کے معاملے میں معاون ثابت ہوگا۔ پاکستان میں توانائی کے ایسے منصوبے جو مہنگے تیل اور موسمی پن بجلی پر انحصار کرتے ہیں سی پیک کے ذریعے توانائی کی قابلِ تجدید تکنیک کی طرف منتقل ہو جائیں گے۔ مزید برآں اس مقالے میں یہ امر بھی زیرِ بحث لایا گیا کہ سی پیک کے توانائی کے منصوبے پاکستان میں توانائی کے شعبے کو فروغ دیں گے۔ اور توانائی کے شعبے میں کمی دور کرنے سے ملک کی سماجی اور اقتصادی صورتحال بہتر ہو جائے گی۔

Introduction

Energy is the soul of the modern machine age and has a profound impact on the lives of people and the development of the state. The secret of smooth economic development lies in reliable access to energy. Energy is the lifeline of the economy of a state. Thus, a state will suffer if its energy supply is disrupted. Smooth economic growth needs a sustainable energy supply. Energy shortfall or problems of energy distribution not only result in the loss of economic development but also negatively affect social cohesion in society and increase unemployment. For the economic development of any nation, energy, in all its forms, is essential. Energy is the basic need of every developed, developing, and underdeveloped state. Supply, conversion, and utilisation are its three components. Pakistan is up against the challenge of its demand and supply, especially when the gap is incessantly increasing. Currently, it lies somewhere between 6,000 to 7,000MW.[1] This gap hits every segment of society and poses a serious threat to economic development.

In this drastic situation, CPEC is crucial for Pakistan because it gives priority to energy projects. The proper function of these projects will enhance Pakistan's energy capability and could make Pakistan self-sufficient in the field. The revitalisation of Pakistan's energy sector will boost economic progress and industrial development. Adequate energy supply is necessary for industry, infrastructure, transport, agriculture, informational technology, and households. Besides, higher living standards are reliant on efficient and reliable energy supply.

Under CPEC, the diversification of existing energy reserves and exploration of fresh energy resources is an essential step towards sustainable development. Focus on sustainable energy through CPEC is likely to enhance the strategic reserves of Pakistan. Sustainability will attract foreign investors and open new horizons of foreign direct investment (FDI). It will add to revenue and increase the gross

domestic product (GDP).[2] Efficient utilisation of energy reserves, through an institutional mechanism in CPEC, will guarantee energy security of Pakistan.

Theoretical Framework

The sustainability and durability of energy components of CPEC can be enhanced while putting the analysis in the theoretical framework of the theory of institutions given by Douglas C. North. He states, "Institutions are the rules of the game in a society or more formally humanly devised constraints that shape human interaction."[3] He further states, "Institutions provide the basic structure by which human beings throughout history have created order and attempted to reduce uncertainty in exchange."[4] For North, institutions define constraints based on economic, political, and social dealings. In North's view, there are two kinds of constraints: formal (constitutions, law and rights of property etc.) and informal (sanctions, taboos, traditions and codes of conduct etc.). Institutions are established to overcome the obstacles defined as transaction costs. Institutions structure the transaction costs of exchange. In other words, North is arguing that institutions matter for economic incentives. Institutions influence the cost of the transaction, which includes the cost of designing, negotiating, and enforcing trade contracts. When there is no institution or when laws are poorly defined and enforced, the value of risk will be high during trade and prospects of economic growth will be reduced.

In a society, the major aim of the institutions is to reduce uncertainty by developing a stable and efficient structure for human interaction. Institutions evolve through different conventions, legal procedures, contracts between individuals, norms of the state and common laws.[5] Institutions, with a defined structure of the economy, increase feasibility and profitability during economic activity. Institutions are formed with formal and informal constraints along

with their enforcement interaction. Relationship between an institution and technology define transaction costs that sum up to production cost. Therefore, institutions change the choices available to human beings. Change in the institution is a difficult process because changes at the margin can be a cause of change in rules, informal constraints, and enforcement effectiveness.

In general, North made the following four basic contributions to social sciences viz neo-classical understanding of institutions, the neo-classical theory of state/government, the importance of economic theory, and qualitative analysis in history. Regarding the role of institutions, this neo-institutional approach has played a vital role in attracting different scholars. In society, institutions provide order and structure by aligning the expectations and actions of individuals. Institutions help in developing coordination between diverse actors of society. Institutions provide governance and are designed to reduce conflicts and set a basis for mutual benefits. Moreover, institutions help in reducing uncertainty within a society and, through structured rules and regulations, are helpful in increasing economic gains.

Institutions offer a reliable and structural way of human communication with an incremental change. Better knowledge, factual data, and variability of valuable attributes pave the way for maximum dependence on institutions for a structured and low-cost exchange. Therefore, by improving the policy structure of existing energy institutions for managing energy projects of CPEC is essential. This step can enhance the durability and sustainability of energy projects. By taking this step, the nation can effectively manage its ongoing energy scarcity.

Energy Portfolio of Pakistan

Pakistan is facing a severe and multifaceted energy crisis. In the energy system of Pakistan, the Ministry of Petroleum and Natural Resources and the Ministry of Water and Power are major actors. The

formulation and implementation of policies for the generation of energy and its overall distribution is the responsibility of these institutions. The aftermath of inadequate energy policies with no practical implementation has brought Pakistan to the verge of an energy shortfall. Governments have been formulating formal and informal policies for the generation of reliable, sustainable, and affordable energy. Due to these poor policy mechanisms, the nation is compelled to rely on expensive and non-renewable energy reserves.

Within the institutional frameworks, Water and Power Development Authority (WAPDA), National Electric Power Regulatory Authority (NEPRA), and other such institutions are working for the same purpose with no satisfactory results. Poor institutional structure and weak policies are prominent among the bunch of reasons that cause deep-rooted and deep-seated crises of energy. For long, energy crises have been creating serious hurdles in the way of the progress of Pakistan. The graph of energy-generation is very low while the demand for energy is being multiplied drastically. Additionally, the aftermath of inadequate policies brought Pakistan to the verge of an energy shortfall. Pakistan has vast reserves of cheap and renewable energy resources. Due to poor policy mechanisms, however, the nation is compelled to rely on expensive and non-renewable energy reserves. Since the establishment of WAPDA in 1958, successive governments have been formulating formal and informal policies for the generation of reliable, sustainable, and affordable energy. The policies never come to anything, however, if not implemented practically.

Pakistan has sufficient reserves of renewable energy resources (solar, wind, biomass, etc.) for power generation. Moreover, Pakistan also has abundant reserves of coal for power generation. Till now, the share of coal was negligible in the energy mix. In 2014, the total share of coal was 0.07 per cent in the energy mix, furnace oil had a share of 36.58 per cent, high-speed diesel had 2.79 per cent, wind 0.37 per

cent, natural gas 22.45 per cent, and nuclear 1.78 per cent. However, in March 2018, after four years, there was no share of high speed diesel, coal share had increased to 14.46 per cent, contribution of furnace oil had decreased to 16.14 per cent, share of LNG came to 24.32 per cent, share of local natural gas generation was 21.28 per cent, share of nuclear was 8.99 per cent, solar 0.81 per cent, wind 1.71 per cent, baggase 1.04 per cent and power import from Iran had a share of 0.48 per cent in the total energy mix.[6]

Over the last few years, this poor energy mix has become the major cause of energy scarcity. Mismanagement is a big cause of energy shortfall. On the political front, lack of political will and differences between provincial and federal governments are serious hurdles in the way of the implementation of suitable energy policies.

Despite various energy policies, the nation has been facing energy scarcity for a few decades. This huge shortfall has hit the areas which were previously exempted from power outages. With every passing day, this gap is widening. Reports say that it is causing an economic loss of more than $100 billion per annum.[7] It also disturbs the social coherence and industrial development. Due to structural problems and power deficit, the cost of energy is rising. Key issues of energy shortfall are power losses, power theft, power mismanagement, and technological failure.[8]

Energy as Part of the Belt and Road Initiative (BRI)

Energy cooperation is an important aspect of the BRI. For energy cooperation, there is a need for massive infrastructural investments. However, under the BRI, energy cooperation does not merely mean infrastructural investments. According to *Visions and Actions on Energy Cooperation* document, the energy goals of the BRI are as follows:

1. To enhance open and inclusive cooperation in energy for the benefit of the community. This cooperation is based on shared interests with responsibility and destiny;
2. To enhance the security of regional energy resources and to improve their distribution;
3. To enhance the integration of regional markets of energy; and
4. To thrust ahead low-carbon and green development.

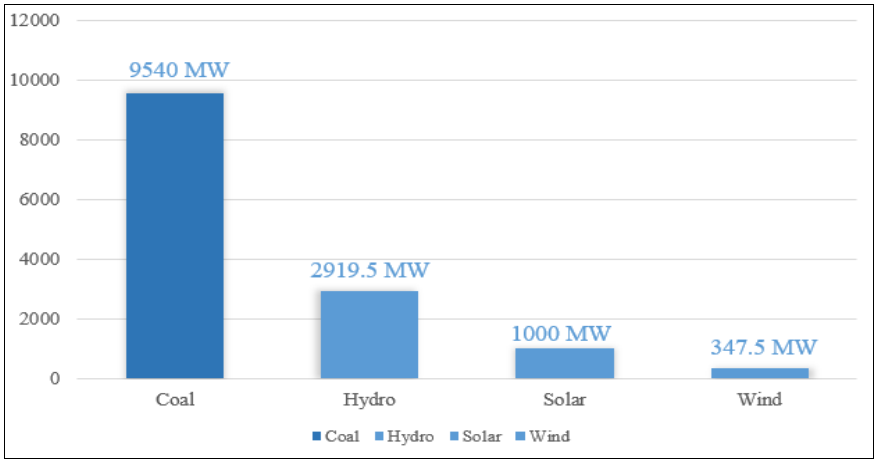
Energy cooperation under the BRI is cooperation and collaboration among individuals, companies, and governments. In the BRI, CPEC is connecting the western part of China with Pakistan through Gwadar Port. CPEC is an energy corridor for both China and Pakistan.

Energy Dynamics of CPEC

CPEC is a $62 billion investment, which is divided into two domains: energy and transportation.[9] For energy, $34.746 billion have been reserved, which amount to 55 per cent of the total investment.[10] The magnitude of CPEC energy investment is extraordinary. The current price tag of CPEC is six times the total developmental assistance ($7.5 billion) of the United States to Pakistan from 2009 to 2014.[11] Energy domain of CPEC is further divided into two parts: generation of energy and its transmission. CPEC is meant to boost the energy-generation capacity of Pakistan. This investment will boost the exploration of energy through indigenous resources.

In CPEC power projects, the four key sources comprise of coal, hydropower, wind, and solar are being used. Pakistan is also focusing on enhancing the share of renewable energy in the energy mix. For long, Pakistan has been focusing on renewable energy resources. CPEC renewable energy projects are solely focusing on this dimension.

Division of CPEC Energy Generation Portfolio in Megawatts



Source: Official Website of China-Pakistan Economic Corridor.

Energy Generation Projects of CPEC and their Present Status

The fundamental purpose of CPEC energy projects is to generate sufficient energy to fulfil the energy requirements of Pakistan. Minding future energy demands of Pakistan, twenty-one projects are part of CPEC. These projects are divided into three categories: The first category comprises of fifteen projects called the Energy Priority Projects. The second category is of four projects called the Energy Actively Promoted Projects. And the third category consists of two projects called Potential Energy Projects.

In 2014, twenty-four projects were proposed in the preliminary draft of CPEC. In that draft, seven projects were in the actively promoted category and seventeen were priority projects. Later on, due to diverse reasons, a few projects were dropped and the figures came down to nineteen.[12] The key reason behind pulling out of these projects was technical non-compatibility. Incompatible projects were Salt Range Mine-Mouth Power Project (300 MW), Sunnec Wind Farm (50 MW), Gadani Power Park (1320 MW), Chicho Ki Mallian Power Park (1,320 MW), and Muzaffargarh Coal Power Project (1320 MW).[13] China

is fully supporting these projects both technically and economically. In these projects, private Independent Power Producers (IPPs) are playing a vital role and governments of Pakistan and China are taking no direct part. These Chinese-financed energy projects are the centrepiece of CPEC. The top priority of CPEC is to equip Pakistan with modern technology to let it manage its drastic energy scarcity. Chinese companies are executing several of the CPEC projects as IPPs. For Pakistan, the Ministry of Water and Power is playing its role as the coordinating body. When these projects will start functioning, they will help by adding sufficient energy to the national grid.[14] It will bring down the reliance of Pakistan on expensive furnace oil. These projects carry immense importance, for they pave the way for a prosperous Pakistan. Following are some details regarding the projects:

CPEC Coal-Fired Power Projects

In CPEC, a major source of energy generation is coal. Ten coal-based power plants are envisaged under CPEC with an almost 880 MW capacity. More than 70 per cent of energy under CPEC will be generated by coal.[15] Pakistan has vast reserves, about 186 billion tonnes, of untapped coal. To decrease its dependence on imported fossil fuel, Pakistan's government plans to increase the annual use of local coal from 4.5 million tonnes to 60 million tonnes.[16] Government is trying to explore and use domestic resources of coal. Karachi-based Port Qasim Coal Power Plant is running on imported coal. The estimated cost of the project was $1,912.2 million. Currently, two independent units of this plant are generating 1,320 MW energy. Ministry of Water and Power is coordinating this project through the Private Power and Infrastructure Board. Similarly, in Sindh, at Thar Block II, there are three projects: The 2,330 MW coal-fired power plant, Engro Thar Block II, the 1,330 MW mine mouth lignite-fired power project, TEL, and the 1,330 MW mine mouth lignite-fired power project, Thal Nova. These three projects, with an estimated cost of $2 billion, will generate 1,320 MW energy. At present, the sites are not

functioning. They are estimated to start functioning by June 2019. Engro Power Gen Thar Ltd and China Machinery Engineering Corporation (CMEC) are financing the projects as Independent Power Producers. The Ministry of Water and Power is coordinating the process through its supervisory agency called the Private Power Infrastructure Board (PPIB). Surface Mine project, located in Sindh at Thar block II with an estimated cost of $1,470 million is a coal-based project, which has not started functioning till now. This project is sponsored by the China Machinery Engineering Corporation (CMEC) and Sindh Engro Coal Mining Company (SECMC). The Ministry of Petroleum and Natural Resources and the Ministry of Water and Power are the coordinating ministries and Thar Coal Energy Board (TCEB) is its supervising agency. At Thar block I, there are two projects named as SSRL Thar Coal Block-I and SEC Mine Mouth Power Plant. The installed capacity of these projects is 1,320 MW. The estimated cost of these projects is $2 billion and $1.3 billion. The executing and sponsoring companies of this project are CCTEG and SSRL and Shanghai Electric Power Company Limited. This project is financed by IPPs. Hence, the Ministry of Water and Power is the coordinating ministry and the PPIB is the supervisory agency. The project Thar Mine Mouth Oracle Power Plant and Surface Mine is located in Sindh province at Thar block VI. The primary input of this project is Thar coal and it will generate 1,320 MW energy. Yanzhou Coal and M/S Oracle Coalfields SEPCO are executing and sponsoring companies of this project.

In Punjab, the Sahiwal coal-fired power plant has started functioning with an installed capacity of 1,320 MW. This project is functioning with two units of 660 MW with an estimated cost of $1,912.2 million. The primary source of this project is imported coal and it uses supercritical technology. Huaneng Shandong Rui Group of China, an IPP, is its sponsoring and executing company. The Ministry of Water and Power is coordinating this project through the Punjab Power Development Board (PPDB) as the supervising agency.

In Balochistan, an imported coal-based power project at Gwadar will produce 300 MW energy. The primary input of this project is imported coal. China Communications Construction Company (CCCC) is executing and sponsoring this project. In this project, the Ministry of Water and Power is the coordinating ministry while the Gwadar Development Authority (GDA) and Gwadar Port Authority (GPA) are supervising agencies. In Balochistan, a China Power Hub Generation Company (CPHGC)-run coal-fired power plant with a capacity of 1,320 MW is functioning. The primary input of this project is imported coal and it is located at Hub. China Power Hub Generation Company (Private) Limited is executing and sponsoring this project. This project is financed by IPPs. In this project, the Ministry of Water and Power is the coordinating ministry while the PPIB is supervising agency.[17]

In Punjab, the mushroom growth of coal-based power generation plants under CPEC is raising environmental concerns. These projects aim to use indigenous coal for power generation. The cost of coal-based power plants is less than hydro, wind, and solar plants. In the long run, it is sure to give direct benefit to consumers in terms of tariffs. By 2021, the expected percentage of coal-based power generation in the energy mix of the country will reach 18 per cent. This fundamental change will happen due to the increased number of coal-based power generation plants.[18] These plants are a remedy for the shortfall of energy and would serve to reduce public frustration with excessive power outages. This coal-driven energy resource would reduce excessive use of furnace oil. The CPEC coal-based power projects are providing the quickest and cheapest source of energy generation, utilising both imported and domestic coal. This way, Pakistan would get low-cost energy. At present, the share of coal in the energy mix is low. Thus, Pakistan has the most expensive energy in Asia at the cost of $0.13 per unit, whereas the same is $0.09 for Bangladesh, $0.11 for China, and $0.12 for India.[19]

CPEC Hydroelectric Power Projects

Hydropower is an environmentally friendly and renewable source of energy generation. Under CPEC energy projects, the second main component is the production of energy by the use of hydropower. The Ministry of Water and Power is also focusing on the construction of hydropower projects. Here, the PPIB through PPP (Public Private Partnership) is in support.

In district Mansehra of Khyber Pakhtunkhwa, located on Kunhar River (a tributary of Jhelum River), the Suki Kinari hydropower station is being installed. The estimated cost of this project is $1,956 million and it will start generating 870 MW of energy by the end of 2022. The sponsoring and executing companies of this project are China Gezhouba Group Company Ltd and Suki Kinari Hydro (Pvt) Ltd. The project is financed through IPP. The Ministry of Water and Power is the coordinating ministry and the PPIB is supervising it.

Karot hydropower station is located on the Jhelum River. The installed capacity of this project is 720 MW and its estimated cost is $1,698 million. This project will start functioning by the end of 2021. The sponsoring and executing companies are CSAIL/CTGI/CTG (China Three Gorges) and Karot Power Company Ltd. (KPCL). This project is financed by IPPs. The Ministry of Water and Power is its coordinating body while the PPIB is its supervisory agency.

In CPEC, Kohala hydropower project is categorised as energy actively promoted project. It is located in Azad Jammu Kashmir near its capital of Muzaffarabad on the Jhelum River. Its estimated cost is $2,355 million and its installed capacity is 1,100 MW. By 2025, it will start to function. The executing and sponsoring companies of this project are CTG/CWEI (China Three Gorges) and (CWE Investment Corp). This project is financed by IPPs. The Ministry of Water and Power is the coordinating body and Alternative Energy Development Board (AEDB) is its supervisory agency.

In CPEC energy projects, Phandar hydropower station and Gilgit KIU Hydropower are potential energy projects. Phandar hydropower station is located in Gilgit-Baltistan with an installed capacity of 80 MW. The feasibility of this project is under the review of experts of both sides. Gilgit KIU Hydropower is also located in Gilgit-Baltistan with an installed capacity of 100 MW. The feasibility of this project is also under the review of experts of both sides.[20]

By 2023, Kohala, Karot, Neelum Jhelum, and Suki Kinari hydropower projects will add 3.7 GW of energy to the system. These projects are not part of CPEC, for they were initiated in 2008 yet China is constructing and financing them.[21]

Pakistan established its first hydropower plant in 1960. Therefore, Pakistan is quite experienced in hydropower technology. Nevertheless, under CPEC, hydropower projects are shaping the energy system anew, providing a sufficient share through renewable energy technology. Economic assistance of China for CPEC hydropower projects will boost the confidence of the government in energy generation.

CPEC Wind Energy Power Projects

Alternative Energy Development Board (AEDB) has initiated many wind power projects in Sindh. UEP Wind Farm is located in Jhimpir, Thatta. Its primary source is wind and it operates on wind turbine technology. It is functioning with an installed capacity of 99 MW. The estimated cost of the project was $250 million. UEP Wind Power Private. Limited (UEPL) is the executing company which is also sponsoring this project. The Ministry of Water and Power is the coordinating body, while the Alternative Energy Development Board (AEDB) is supervising it.

In the same district, another project named Sachal Wind Farm is also operating on wind turbine technology with the wind as its primary energy source. It is functioning with an installed capacity of 49.5 MW. The estimated cost of the project was $134 million. Its

executing and sponsoring body is Sachal Energy Development Pvt. Ltd. (SEDPL). It was also financed by IPPs. The Ministry of Water and Power is the coordinating body, while the Alternative Energy Development Board (AEDB) is supervising it.

Three Gorges Second Wind Power Project and Three Gorges Third Wind Power Project are also located in Sindh. They both use wind turbine technology. The capacity of the projects is 49.5 MW each and its estimated cost was $150 million. This project is operational and Three Gorges Third Wind Farm Pakistan Pvt. Ltd. (TGTWF) and Three Gorges Second Wind Farm Pakistan Ltd. (TGSWF) are their executing and sponsoring bodies. This project is also financed by IPPs with same coordinating and supervising bodies.

In CPEC, there are two wind power projects under energy actively promoted projects. First is Cacho Wind Power Project, which is also located in Sindh. The executing and sponsoring body of this project is Cacho Wind Energy Pvt. Ltd. and its installed capacity is 50 MW. This project is also financed by IPP with the same coordinating and supervising bodies. Second is the Western Energy (Pvt.) Ltd. Wind Power Project as an IPP. Western Energy (Pvt.) Ltd. is its executing and sponsoring body. It is also located in Sindh. The installed capacity of this project is 50 MW. Like previous projects, it is also coordinated by the Ministry of Water and Power and Alternative Energy Development Board (AEDB) is its supervising agency.[22]

In Pakistan, the generation of energy through wind is novel. In comparison with hydro and solar initiatives, the scale of energy generation through wind power is smaller. However, these projects will encourage future investments. Pakistan needs to learn from Chines experiences to make use of this technology and utilise it for energy generation more efficiently because it is an environment-friendly and renewable energy source.

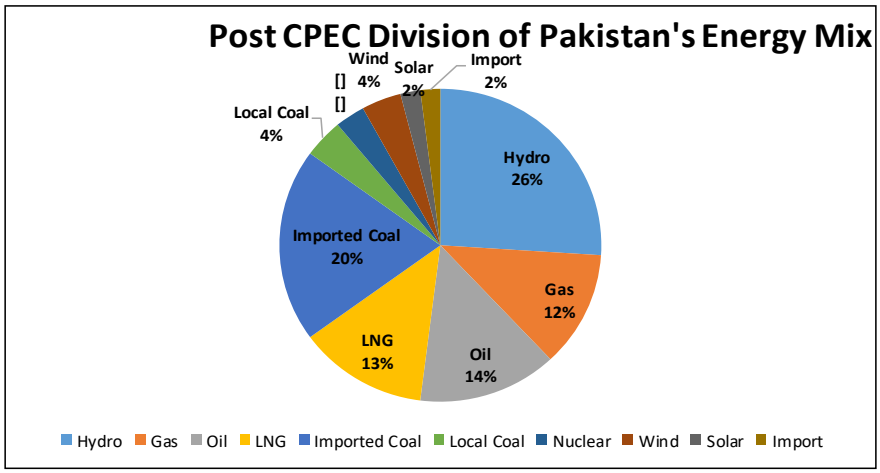
CPEC Solar System Power Projects

The newly introduced solar technology is a component of energy generation through CPEC. Among solar projects, the 1,000 MW Quaid-e-Azam Solar Park is located in Bahawalpur. Its primary input source is solar and it uses PV solar technology. The estimated cost of this project $1,302 million. Zonergy is its executing and sponsoring body. It is coordinated by the Ministry of Water and Power and both Alternative Energy Development Board (AEDB) and Punjab Power Development Board (PPDB) are its supervising agencies.[23]

The use of solar technology is increasing day-by-day. In many cities, WAPDA is utilising solar technology to illumine street lights. People are promoting the use of this technology for their domestic use as well because it is a renewable and cheaper source of energy.

CPEC Energy and Management of Pakistan's Energy Scarcity

Energy projects of CPEC will play a key role in reducing is energy shortages. These projects, being beneficial for people, will contribute to load management. They are essentially the backbone of CPEC.



Source: Yasir Arafat, "Challenges and Solutions in Building CPEC-A flagship of BRI," *Centre of Excellence, China-Pakistan Economic Corridor*, Working Paper No. 17, (2017), p.5.

According to Ahsan Iqbal, former Minister for Planning, Development, and Reforms, the total energy generation capacity of CPEC projects is 17,045 MW.[24] This massive energy portfolio is sufficient to fill the demand and supply gap of 6,000 to 7,000 MW. It shows that CPEC energy projects will not only address energy scarcity but will also make Pakistan an energy self-sufficient state. Therefore, it is essential that these projects are well-managed by improving the structure of the existing energy institutions. Institutional management will enhance the durability and sustainability of these projects. Institutional reforms may provide a foundation for the achievement of self-sufficiency in the energy sector of Pakistan. Effective energy reforms ensure effective management of energy resources and judicious integration of renewable energy technologies. An effective institutional framework brings all policymakers together for the development of viable policies for promoting national interest. Simultaneously, they join hands when they are playing their role in developing national consensus beyond their parties or self-interest. Efficient energy institutions enable long-term energy efficiency and, thus, help a state respond effectively and efficiently to energy crises. Academic research and experiences confirm that countries with strong and efficient institutional frameworks have strong and efficient energy traditions. A long-term and efficient energy strategy helps plan and then put into practice an effective and efficient response to an energy crisis.

In Pakistan, the problem is not on the side of policy, rather on the side of implementation. Governments have been formulating useful energy policies with no practical outcomes because the implementation mechanism remained too weak to produce adequate results. Through effective institutions, this problem may be controlled

because institutions employ their own enforcement mechanisms and implement the policies in their own trustworthy ways.

Analysing the post-CPEC energy portfolio of Pakistan, it is notable that a negligible share of renewable energy in the energy mix of Pakistan is making gradual progress. The share of wind and solar (4 + 2) is a big step in the progress towards renewable energy. Another key accomplishment is the reduction in reliance on imported furnace oil. It is a very big burden on the economy. So its import must decline and it is declining.[25]

Energy projects of CPEC, adding the bulk of energy, are sure to address energy scarcity of Pakistan. Through CPEC energy projects, Pakistan will be able to overcome economic crises. In 2014, before the inauguration of CPEC energy projects, the per unit cost of power was PKR 9.69. At present, it is PKR 15.53 but in 2020 it is expected that the per unit cost of power will be reduced to PKR 9.10. There is a link between energy and development. Both are fundamental to the economic development of a state. A strong combination of these factors leads a state towards sustainable progress and energy security. According to NEPRA, through CPEC energy generation there will a shift of energy mix from expensive oil-based generation (Tariff: PKR 10.4506/KWH) to coal-based generation (Tariff: PKR. 8.117/KWH).[26]

Owing to different energy projects of CPEC, an improvement in energy generation is seen. In 2012-13, energy capacity was 22,812 MW which reached 29,573 MW in February 2018. There was a record growth of 30 per cent in the same period, which is a positive sign.

Generation of energy may vary due to certain constraints and fluctuations in its usage. In 2012-13, the generation capacity of energy was 96,496 GW/h which in 2016-17 reached 117,326 GW/h with an admirable growth of 22 per cent. Simultaneously, from July-February 2017 in FY 2018, generation of energy remained 69,956GW/h.[27] Funding for CPEC, in the form of Foreign Investment, is categorised under FDI which ensures 17 per cent return on equity. Mainly, China

Development Bank and China Exim Bank are providing loans against their own balance sheet.

By the completion of the long-term CPEC energy projects, the energy mix of Pakistan will acquire more sustainable balance by 2029-30. Diverse power generation sources of CPEC will enhance the energy security of Pakistan. Through CPEC energy, current reliance of Pakistan on both expensive furnace oil and seasonal hydropower will be reduced and energy mix will remain inclined towards renewable energy technologies like hydro, solar, and wind. CPEC energy will enable Pakistan to generate cheaper energy by 2030. CPEC energy will provide a better chance to reduce the cost-tariff deficit. The issue of circular debt in the energy system of Pakistan will be resolved through a reduction of the cost-tariff deficit. The utilisation of cheaper renewable energy will also reduce generation cost, which will give direct benefit to the end user.

CPEC Transmission and Distribution Lines

In 2015, Pakistan was confronting 20-25 per cent transmission and distribution losses, which were becoming a cause of a rise in tariffs. In comparison with transmission losses, distribution losses are higher, amounting to 70 per cent. These losses are a major cause of increasing circular debt and distribution companies are unable to control them. Pakistan's power sector is using overhead lines for transmission and distribution of energy. Poor management system, old transmission lines, and outdated infrastructure of grid stations are the reasons of T&D losses. Equipment of energy distribution is too old and not working properly, which provides opportunities for theft of energy.[28]

On the transmission side, there are two transmission line projects in CPEC. One is Matiari to Lahore ±660kV HVDC Transmission Line Project. This line will carry 2,000 MW with 10 per cent overload capability for two hours. The expected cost of the project is $1658.34M

and it will start functioning by March 2021. The second line is from Matiari to Faisalabad. This line will also carry 2,000 MW with 10 per cent overload capability for two hours. The estimated cost of the project is $1,500 million and it will start it functioning by 2018/19. Both these transmission lines are executed or sponsored by China Electric Power Equipment and Technology Co. Ltd. (CET)/State Grid Corporation of China (SGCC). These two projects are coordinated by the Ministry of Water and Power. Moreover, the National Transmission and Despatch Company (NTDC) is the supervising agency.

During 2017-18, the transmission system of NTDC has been strengthened. In the national grid, for the evacuation of additional power of 4,340 MVA, 2700 MVA on 220 KV and 500 KV systems respectively. The system of current transmission lines is extended by adding 372 km and 1,157 km on 220 KV, and 500 KV, respectively.[29]

Addition in Transmission Capacity

Items	**Units**	**Targets 2017-18**		**Achievements up to June 2018**	
Transmission	MVA	500 KV	220 KV	500 KV	220 KV
	MVA	4800	6360	2700	4340
Transmission	KM	1853	809	1157	372

Source: Pakistan 2025, Annual Plan 2018-19, Government of Pakistan, Planning Commission. Ministry of Planning, Development and Reform, (2018), p. 131

Improving the structure of transmission lines will definitely reduce line losses. This will help transmit energy from the generation site to the national grid and onward to the end-user. Sustainable energy generation, with reliable transmission system, will boost industrial capacity and finally, the issue of circular debt will be resolved.

Conclusion

CPEC is a win-win synergy not only for Pakistan and China but also for the whole region. Energy-related projects of CPEC are the backbone of the energy policy of the government. A major portion of the FDI ($34 billion) has been allocated for energy generation and transmission to meet the energy demand of Pakistan. Funds through CPEC is the largest FDI in Pakistan, which will overcome its energy crisis. Energy projects of CPEC have immense importance because the source of energy generation projects will be the renewable and alternative energy potential of Pakistan. Pakistan, through CPEC, will be able to get sustainable and reliable energy to support its industry and unhindered supply of energy for local consumption. Sustainable energy through CPEC will lead to sustainable development in Pakistan. These projects are not only the lifeline of the economic sector but the overall development of Pakistan is also linked with its different projects. Infrastructure projects of CPEC will improve roads and access towards markets will become easy. CPEC will enhance the social, economic, political, and strategic significance of Pakistan. This project is important for Pakistan because it will help reduce public and fiscal debt. These things would provide ways for sustainable economic development.

CPEC energy projects are environment-friendly and Pakistan has substantial renewable energy potential. This positive dimension of renewable energy technologies has increased the overall desire of China to invest. By 2020, China plans to invest $400 billion on renewable energy. By 2030, it desires it to constitute 20 per cent of its total energy mix. That is why China is promoting renewable energy through CPEC and these technologies have a central place in the energy projects of the corridor. These projects will provide Pakistan with an opportunity to address its energy insecurity. They have the potential to reduce the level of energy insecurity to zero and provide cheaper and diverse energy mix. Based on various types of

technologies, CPEC energy projects have a great potential for the energy sector of Pakistan and this sector is struggling hard to cope with energy crisis for such crisis have a great impact on the GDP of the country.

China and Pakistan are in need of energy and this corridor will help them in their energy shortage. The growing industry of China needs energy in the shape of raw material. At present, the industrial sector of Pakistan is operating at half its capacity due to the unavailability of smooth supply of energy. If this sector would get energy as per its needs, it would be able to utilise its full capacity. By doing so, the energy sector would provide opportunities for jobs and would help to reduce the unemployment ratio. It is evident that the continuous supply of energy would affect not only the life of the people but would also improve the performance of the industrial sector. A sustainable supply of energy would help in improving the image of the country before the international community.

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