

Climate Change Effects and Relationship with Violent Conflicts in Pakistan

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Abstract

Pakistan has been blessed with a diverse landscape. Diversity is important for prosperity, leading to peace. However, drastic climate change has a direct effect on human security. This paper aims to examine how human security is being threatened by climate change in Pakistan. A continuous decline of natural resources and agricultural products is affecting our national security by disturbing our relationship with neighbouring countries and augmenting ethnonationalism. The marginalisation of masses amidst economic disparity will adversely affect Pakistan as climate change will inhibit the state's capability to govern. This study of urbanisation and agricultural disputes under elitist control over natural resources reveals how the marginalisation of masses is threatening the legitimacy of the state. Climate change threatens to widen the disparity between rural and urban life and agricultural and industrial sectors.

Keywords: Climate Change, Conflict, Human Security

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Introduction

The process of climate change and its effect on our planet has never been as severe as it is today. The sheer importance to understand and mitigate the impact of climate change on the human populace has been made all the more urgent in the wake of the recent report by the United Nations (UN) on climate change.¹

Pakistan is among the list of nations which is imperilled owing to the intensifying effect of climate change. According to the UN, Pakistan is the seventh most vulnerable country to climate change. Pakistan has been in the midst of multifaceted terrorism since 9/11. Further aggravating the threat of terrorism are the policies of the state which have in the past led to religious extremism in the society.

In tandem with surging extremism emerges a threat of the erosion of social cohesion as the society descends into an identity crisis. The pluralism in ethnic and religious sectors, instead of giving way to multiple narratives regarding Pakistan is impinging upon the internal stability and inhibiting the tolerance of diversity. Because of these multifaceted crises, Pakistan has undergone a long history of violent episodes, disturbing its internal coherence and national security.

Similar to the contemporary world, effects of climate change on Pakistan are various and range from economic sustainability and progress to public health, water and energy crises. This paper aims to examine one more aspect of climate change on Pakistan, namely violent conflict and threats to national security.

Pakistan is in the midst of hybrid warfare. To cope with such unconventional warfare, human security cannot be separated from the operations of the state. States are responsible for providing opportunities to people as well as cultivating a stable environment so livelihoods can be pursued under absolute peace. It is also responsible for the provision of auxiliary measures when income is not adequate.

¹ "Climate Change Annual Report 2017," *United Nations*, accessed December 1, 2018, <https://unfccc.int/resource/annualreport/>.

Jon Barnett and W. Neil Adger point out in their seminal work titled *Climate Change, Human Security and Violent Conflict* that, 'Human security depends on a system where each rational individual calculates that it is more profitable not to rebel'.² Climate change has enough potential to destabilise the human security of any society by reducing the availability and quality of natural resources which are necessary to sustain the livelihood of people. It not only can heighten violent conflict but has the capability to undermine the capacity of states, especially in monetary aspects in reference to taking measures aimed at protecting human security and maintaining stability and peace. In short, climate change directly affects population and indirectly affects state functions. In more recent history, the Arab Spring is the finest example pertinent to climate change as a stress factor in rising food prices. It aggravated regional turmoil and by default, political instability.³

International Conflict and Climate Change

Identical to other nations in the developing world, Pakistan has suffered injustice on the climate policy front. India contributes 98 per cent of coal consumption, that with high ash, in South Asia. This phenomenon has caused smog proliferation in Pakistan over the past 15 years.⁴ On another front, Pakistan is also fighting a water war against India. This climate threat emanating from India imperils an already acrimonious relationship between the two arch rivals in South Asia.

Pakistan is primarily an agricultural country. The majority of its populace depends on the sector with its contribution of 24 per cent to the Gross Domestic Product (GDP) in addition to earning 70 per cent of the foreign exchange. Fruits, vegetables and other horticultural products are high value exports for Pakistan. In light of water shortage and rise in temperatures, it is estimated that the crops yield will decline by 30 per cent by 2050.⁵

² Jon Barnett and W. Neil Adger, "Climate change, human security and violent conflict," *Political Geography* 26 (2007): 639-655.

³ Afifa Kiran and Qurat-ul-Ain, "Climate change: Implications for Pakistan and Way Forward," *ISSRA Papers* (2017): 49-62.

⁴ Jon Barnett and W. Neil Adger, "Climate change, human security and violent conflict," *Political Geography* 26 (2007): 639-655.

⁵ Saeed Ur Rahman, "Global Climate Change: Impact on Pakistan's Political Economy," *ISSRA Papers* (2010): 24-36.

This decline simultaneously disturbs Pakistan's trade balance and regional relationships with other countries, particularly Afghanistan. Pakistan is an agriculture supplier that feeds its own population as well as that of its neighbouring countries including Afghanistan.

Trade imbalance and foreign exchange deficit is a huge impediment to the development of the economy, concurrently posing a critical threat to the national security of Pakistan. In 2008, Bret Stephens argued that Washington ought to buy Pakistan's nuclear assets if its debt reaches a certain threshold in order to relieve Pakistan of its debt burden to international debtors.⁶ Institutional failure and ineffective economic planning is the root cause of this perilous vulnerability.

A major dependency on agriculture and lack of economic diversity will lead Pakistan to the path wherein an economic suicide is unavoidable. In changing its economic, social and development narrative, Pakistan can learn from none other than Israel.

In Israel, the agriculture's share to the Gross National Product (GNP) declined from 11 per cent in 1950 to 2.6 per cent in 2008. Additionally, the ratio of agricultural products exported decreased from 60 per cent to less than two per cent of total exports in the same period. On the other hand, there was an increase of annual exports from Dollars 20 million in 1950 to 1.2 billion in 2009.⁷

The reason behind this progressive surge in the economy lies in the diversification from agriculture to the manufacturing sector. Israel's economic diversity can be gauged from the fact that it has the highest number of scientists and technicians i.e. 140 per 1,000 workers, which is one of the various reasons for its economic sustainability.⁸

Pakistan is the core wheat vendor for Afghanistan. However, Pakistan's wheat exports to Afghanistan have been steadily declining since 2011 as Table 1 reflects.

⁶ Bret Stephens, "Let's buy Pakistan's nukes," *Wall Street Journal*, last modified December 16, 2008, <https://www.wsj.com/articles/SB122939093016909205>

⁷ Economy: Sectors of the Israeli Economy," *Israel Ministry of Foreign Affairs*, accessed December 1, 2018, <https://mfa.gov.il/mfa/aboutisrael/economy/pages/economy-%20sectors%20of%20the%20economy.aspx>

⁸ Eduard Shteinbuk, "R&D and Innovation as a Growth Engine – The Israeli Model and the Role of the OCS," *Business Incubator High School of Economics*, last modified July 22, 2011, <http://sun.inc.hse.ru/sites/default/files/Shteinbuk.pdf>.

Year	Share
2011	64 per cent
2012	57 per cent
2013	49 per cent
2014	46 per cent
2015	32 per cent
2016	30 per cent

Table 1 (Source: The Observatory of Economic Complexity)

Since its inception, Pakistan has had a cold relationship with Afghanistan over the Durand Line. Feeding Pakistani wheat to Afghanistan ought to be enough to prevent Afghanistan from being a part of the insurgency in Pakistan. It has been predicted that if average temperature were to increase by 2.5 degrees Celsius, heat stress would reduce wheat yields by as much as 60 per cent.⁹ The shrinking share of wheat supply to Afghanistan is creating a space for India to fill and increase their use of Afghanistan's land to bolster the insurgency in Pakistan. By taking advantage of this situation, India has paved its way through to the Chabahar port in Iran. India has made a commitment to supply 1.1 million tonnes of wheat to the people of Afghanistan on grant basis. Seven shipments have been sent to Afghanistan from October 2017 to April 2018.¹⁰

Similarly, Pakistan is also confronted by a water war against Afghanistan alongside its long-lasting water war with India. As in other parts of the world, the glaciers in Afghanistan are shrinking at an alarming pace. The situation has the potential to escalate the confrontation between the two neighbouring countries. Afghanistan has signed only one water treaty with Iran in 1973. Since 2006, Pakistan has tried twice to seek the intervention of the World Bank and the UN to broker a much needed treaty with Afghanistan. Now, Afghanistan has come up with a plan to build 12 reservoirs on the Kabul River with financial and technical support from India. In future, this tussle may lead to tensions on the border.¹¹

⁹ Humaira Sultana, "Vulnerability and Adaptability of Wheat Production in Different Climatic Zones of Pakistan under Climate Change Scenarios," *Climatic Change* (2009): 123-142.

¹⁰ Neelapu Shanti, "India's 7th Wheat Shipment Spells Continued Commitment to Afghanistan," *Economic Times*, last modified 5 April 2018, <https://economictimes.indiatimes.com/blogs/et-commentary/indias-7th-wheat-shipment-spells-continued-commitment-to-afghanistan/>.

¹¹ "Water War Between Pakistan and Afghanistan?," *Global Village Space*, accessed November 13, 2018, <https://www.globalvillagespace.com/water-war-between-pakistan-and-afghanistan/>.

Terrorism and Climate Change

In the aftermath of 9/11, a wave of extremism shook the length and breadth of Pakistan. More than 70,000 people including civilians and soldiers have lost their lives in the conflict. The root cause of this extremism lies in past foreign and domestic policies. Socio-economic and sociopolitical dynamics have also exacerbated the situation. Now, after the operations titled Zarb-e-Azb and Radd-ul-Fasad, the security situation in the country is improving. Military operations are only a critical component in the fight against extremism. Non kinetic means are necessary to uproot other causes of extremism if it is to be eradicated entirely from the society.

Climate change is a critical factor in the surge of extremism as it undermines human security by reducing the opportunity cost of rebelling. Factually, 40 per cent of the rural population is in poverty and 50 per cent is landless and depends on irrigated agriculture for their livelihoods.¹² Climate change effects like floods, water scarcity and soil salinity proportionately affect the livelihood of the rural population. Commonly, criminality in Pakistan is thought to be associated with the process of rural dispossession. A study by the United States Institute of Peace (USIP) provides an incisive look into this thought. Data collected from ground interviews revealed that most extremist outfits in Central and Southern Punjab, where land holding numbers are most skewed, relied on these armies of dispossessed small farmers to fill their ranks.¹³ This phenomenon was not new for the region. Even in the 1980s and 1990s, armies of radicalised young men from Southern Punjab were mobilized for Jihad in Kashmir followed by Jihad in Afghanistan.¹⁴

Another study revealed that terrorism increases after natural disasters in less developed countries. The twin effects of turmoil after a catastrophe and the exploitation of the vulnerabilities of the state renders the government ineffective for allocation of resources for disaster relief.¹⁵

¹² Daanish Mustafa, Majed Akhter and Natalie Nasrallah, "Understanding Pakistan's Water-Security Nexus," *Peaceworks, United States Institute of Peace*, no. 88, last modified June 2013.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ C. Christine Fair, Patrick, M. Kuhn, Neil Malhotra, Jacob N. Shapiro, "How Natural Disasters Affect Political Attitudes and Behavior: Evidence from the 2010-11 Pakistani Floods," accessed June 11, 2015.

The flood in 2010 is a case study in this regard. The inadequacies in disaster response paved the way for humanitarian wings of some Islamic militants groups to indulge in relief providing measures to acquire legitimacy. Although these militant groups did not maintain a long-term presence in the social landscape of the flood affected areas, their impact as a major determinant in facilitating violent conflict(s) is indeed considerable. More or less, they succeeded in recruiting scores of people. This recruitment not only intensified after the flood but had remained common practice over the past years. Due to dependency on a gravity based irrigation system, smaller farmers tend to be at a disadvantage because their lands are situated at the tail end of canals.

Water availability depends on the will of more politically influential farmers, influential by virtue of land location near to the water course. It is also the main reason for dispossession of lands from small farmers which is why the majority of the so-called Punjabi Taliban and militant sectarian outfits recruit most of their numbers from Southern Punjab. Such rural dispossession is highest and the land distribution numbers most skewed in Southern Punjab in comparison to the rest of Pakistan.¹⁶

The 2010 flood affected around 20 million people (11 per cent of the total population) causing between 1,800 and 2,000 deaths in addition to damaging 1.7 million houses. A survey of 13,282 households conducted to understand the political behaviour and seek out violent risk among flood victims, produced intriguing results.

Turnout in Pakistan's elections witnessed a rise roughly of 11 per cent points between 2008 and 2013 (from 44 per cent to 55 per cent). The survey results suggest that approximately 19 per cent of this change can be attributed to the impact of the 2010 floods. The ruling party from 2008 to 2013, Pakistan Peoples' Party (PPP) lost by a significant margin in the 2013 election, losing 16.5 per cent of the vote share in the average constituency. Their losses were roughly 25 per cent smaller in flood affected constituencies. The result also revealed that victims of the 2010-2011 floods were more likely to think violent protests would be effective in achieving government attention and more amenable to

¹⁶ Ibid.

this method than signing and presenting politicians with a petition.¹⁷

The relationship of climate change and risk of violence is not limited to rural areas only. The megalopolis of Karachi has a long history of violent conflicts. In the late 1990s and early 2000s, particularly in slums like Lyari, an area which was supposed to receive 5 million gallons of water per day was receiving 30,000 gallons according to research. Police responded to 4,000 protestors with force in 2001 when residents of Lyari showed their angst for regular and severe water shortages. Ensuing violent reaction in the subsequent days led to three bombs exploding in the city, dozens of cars set on fire and 230 people arrested. Two people were killed and several were injured during the chaos.¹⁸

The ongoing Baloch insurgency aimed at provincial autonomy and control over its natural resources exists dominantly due to factors associated with climate change. Drought in late 1990s and early 2000s was responded inappropriately to by drilling tube wells in the province. Large and socio-economically powerful land owners had easy access to technology. This proliferation of tube wells exacerbated the situation, created by agricultural modernisation. It was responsible for the introduction of the water pump to the region in the past three decades. Huge subsidies were given for their use to expand agricultural production. The usage of these pumps led to a declining water table in Balochistan. Proportionally, Karezes of the province have declined. The consequence has been a breakdown of community cohesion and the social capital that coalesced around the Karez system. Significantly, Karez was not just a source of livelihood but also the basis of identity and status in the community.¹⁹

Once the right to water was lost, people lost their social status and often had to migrate to nearby cities or take up jobs as farm labourers with tube well owners. It is likely that the breakdown in the Karez established a vacuum that led to the cultivation of hordes of young people outside of community structures. This social crumbling ran the risk of contributing foot soldiers for assorted insurgent outfits in the region.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

Urbanisation induced Conflict and Climate Change

Climate change has a two-way relationship with urbanisation. It acts as a push factor which leads to migration from rural to urban areas. This urbanisation also causes pollution which leads to climate change. Pakistan, not dissimilar to other developing countries, is urbanising rapidly. The number of people living in cities has increased almost fourfold over the last 20 years.²⁰

This prodigious exodus has the potential to increase the angst in host communities. Mega cities like Karachi are particularly vulnerable to this environment induced violence between diverse communities. Karachi is witnessing rapid urbanisation and also has a prolonged history of ethnic politics exacerbated by political leaders exploiting hatred among communities.²¹ It is an epic study into how an ethnic particularistic political party Muttahida Qaumi Movement (MQM) replaced the Islamist vote in the city from the 1980s to 2018. It was an era of horrifying ethnic clashes as well as rampant migration from rural Pakistan towards Karachi. The politics of ethnicity and identity increases exponentially as leaders are able to mobilise some groups of people under certain conditions such as the presence of a weak state with its impact on revenue, legitimacy and social cohesion.

In terms of migration, the influx of migrants into new areas has been a significant factor in fuelling many environmental conflicts. Agricultural shortages cause a hike in food prices which adversely affect the urban poor that migrated from rural areas in addition to the native population of urban areas. The urban populace not only shares jobs and business activities with rural migrants but is also confronted by inflation of agricultural products.²²

Pakistan is a water stressed country. Water availability is expected to be less than 1,000 cubic metre per yard heading into 2035 as predicted in the World

²⁰ John Briscoe and Usman Qamar, "Pakistan's Water Economy: Economy: Running Dry Running Dry," *The World Bank*, last modified October 2005, <http://documents.worldbank.org/curated/en/989891468059352743/Pakistans-water-economy-running-dry>.

²¹ Bilal Ahmed, "Karachi and Ethnic Politics; A Historical Perspective," *Centre for Strategic and Contemporary Research*, last modified April 23, 2018, <https://cscr.pk/explore/themes/social-issues/karachi-a-history-of-ethnicity-and-politics/>.

²² Ibid.

Bank Report in 2006.²³ Scarcity of natural resources, especially water might create significant risk to cause conflict and civil unrest as disparities already exist within society. In Pakistan, population growth, rapid urbanisation, change in production and consumption, lack of opportunities for upward mobility and elite stranglehold of public utilities, factors in the placing of significant and unprecedented stress on water resources.²⁴

In Karachi, this disparity exhibits a bleak picture where daily water utilisation of highly subsidised water ranges from 340 litres per day/per capita in high income areas to 60 litres per day/per capita in slum areas. Dependency on private tanker trucks often operating under a network of criminal elements can also cause civil unrest.²⁵ A reduced pay of 10 or more times per cubic metre than the rich who receive subsidised services through house connections is part of convention.²⁶

Rampant urbanisation in the light of weak institutions and planning has caused housing problems in the cities. The government has been indifferent to housing needs and paved the way for private housing schemes like Bahria Town and Defence Housing Authority (DHA) in Karachi. These schemes provide housing to the rich segment of the populace.

As far as Bahria Town's 23,000 plus acres of land is concerned, the project has been embroiled in controversies being accused of encroaching on agricultural land, heritage and villages.²⁷ These projects are also charged with the usage of city resources. It begs the question as to how such a significant amount of water is being used in the construction of these societies while the city is facing a shortage of water. In fact, the usage will continue after the project will be fully occupied by the residents.

²³ Afifa Kiran and Qurat-ul-Ain, "Climate change: Implications for Pakistan and Way Forward," *ISSRA Papers* (2017): 49-62.

²⁴ Ibid.

²⁵ John Briscoe and Usman Qamar, "Pakistan's Water Economy: Economy: Running Dry Running Dry," *The World Bank*, last modified October 2005, <http://documents.worldbank.org/curated/en/989891468059352743/Pakistans-water-economy-running-dry>.

²⁶ Ibid.

²⁷ Fahim Zaman and Naziha Syed Ali, "Bahria Town Karachi: Greed unlimited," *Dawn*, last modified April 18, 2016, <https://www.dawn.com/news/1252809/bahria-town-karachi-greed-unlimited>.

Subject specialists are not shying away from referring to these societies as the East India Company.²⁸ People living in these societies will have luxurious services because they have the means to buy them. To address these needs, not a single inch of land has been given to government departments. In addition, they will even have their own security system.

All facilities like health, education and security will be provided by private institutions. What elements, then, will motivate them to cast their vote in elections, especially local government elections? In fact, if they have their own security system and have not been allocated land for police stations, is it not undermining the government's legitimacy? It is clear that residents will have concerns with the company providing these facilities to them. They will be obligated to support the company in case of any conflict with the State. The people residing in the housing scheme will be using resources such as water and electricity at the expense of the people residing outside the housing scheme which will exacerbate tensions between communities.

Karachi, with a lot of employment opportunities including small shops, vends and hawks, acts as a pull factor from all over the country, remaining a centre of urbanisation. By virtue of these small shops and markets, Karachi has been ranked the sixth cheapest city in the world.²⁹

Climate change serves as incentive for migration of agricultural labour from rural to urban areas. A plethora of agricultural labour has migrated to urban areas especially Karachi, the biggest commercial hub in Pakistan. Karachi is home to largest share of the informal sector. It has provided the native and migrant community with initial capital to start small businesses.

Recently, as per the order of the Supreme Court of Pakistan, around 1,400 shops including leased properties and 4,000 hawkers have been demolished for the protection of heritage. This measure directly affected 10,000 families, not only from Karachi, but those who migrated from rural areas due to business incentives. The operation apparently was undertaken without much forethought

²⁸ Tooba Masood, "Karachi's Water, Electricity Being Given to Bahria Town, DHA City," *Dawn*, last modified April 24, 2016, <https://www.dawn.com/news/1253985/karachis-water-electricity-being-given-to-bahria-town-dha-city>.

²⁹ "Worldwide Cost of Living Report," *Economic Intelligence Unit*, accessed December 1, 2018, <http://www.eiu.com/topic/worldwide-cost-of-living>.

as to where the victims and their small sized businesses will be relocated to. It is a dilemma for migrants who are losing their jobs due to this drive who had in the first place lost their jobs in rural areas because of climate change. It has been asserted by certain civil society activists that such measures without due planning were only taken for the benefit of the rich, providing them wide roads for convenience in movement. However, the poor will have no way forward rather than to indulge in religious extremism.³⁰

Rural Livelihood and Climate Change

Rural livelihood is more vulnerable to the risk of climate change because of its direct relation to land, weather, water, and other elements which are pertinent to agricultural activities. Tussle between small and large farmers over resource disputes, delays in justice and the endorsement of state agencies of large farmers due to their sociopolitical stature coupled with poor accountability have also shaken the confidence of the farmers.³¹

Social and human security of children and women is more at risk because of their responsibility for water collection. Resultantly, this situation can create a gender based conflict because women and children cannot leave the vicinity of their villages for cultural reasons.³²

Youth Bulge and Climate Change

Pakistan is blessed to have a youth bulge exceeding 60 per cent. Almost 120 million of the population is under 25 years of age.³³ Extremists have exploited this fact using the youth in violent activities since 2001. The youth runs the risk of becoming bane rather than boon to the society if climate change constrains the opportunities of employment in the future. They are more vulnerable to the risk of indulging in extremist activities. Historically, it has been proven

³⁰ Arif Hassan, "Saddar Massacre," *Dawn*, last modified November 19, 2018, <https://www.dawn.com/news/1446517>.

³¹ John Briscoe and Usman Qamar, "Pakistan's Water Economy: Economy: Running Dry Running Dry," *The World Bank*, last modified October 2005, <http://documents.worldbank.org/curated/en/989891468059352743/Pakistans-water-economy-running-dry>.

³² Daanish Mustafa, Majed Akhter and Natalie Nasrallah, "Understanding Pakistan's Water-Security Nexus," *United States Institute of Peace*, last modified March 14, 2013, <https://www.usip.org/publications/2013/05/understanding-pakistans-water-security-nexus>.

³³ Zahid Hussain, "Population and Security," *Dawn*, last modified October 24, 2018, <https://www.dawn.com/news/1441013>.

that in many internal wars, most armed groups are comprised of young men. Frustration for the limitation in their livelihoods leads them to join such groups to achieve an elevated status in society.³⁴ Due to this situation, Pakistan is sitting on a potential demographic disaster.³⁵

Interprovincial Conflict and Climate Change

Pakistan has been facing an identity crisis since its inception. Due to centralisation of power in the hands of the Federal Government, all provinces have had strong grievances with others. The 18th Amendment in the Constitution of Pakistan instated in 2010 and the 7th National Finance Commission (NFC) Award assured more provincial autonomy along with more financial resources. The Amendment has cooled down the conflict between provinces. However, some interprovincial issues still await resolution. Water distribution ranks first among the interprovincial conflicts which may arise due to climate change and scarcity of water.

Historically, Pakistan has confronted a multitude of challenges just after independence including an ecological challenge. Hundreds of billions of cubic metres of water are now stored in the naturally deep aquifers of Punjab alone. In light of Punjab's support to the British Army, Punjabi elite were given land in canal colonies in Punjab and in some part of Sindh. Moreover, some landholding castes monopolised the recruitment to the British Army. It served as an introduction of the army as a major factor in a hydraulic society via granting lands to military personnel.³⁶ This situation gave an immense boost to the economic, social and political power of the feudal elite of Punjab while simultaneously alienating the mass population in Punjab and other provinces relegating them to lower status services castes in the new economic equilibrium. Water fetching from Punjab's aquifers with water pump stimulated the dryness of Balochistan's Karez.

In the absence of cooperation among provinces through an accord, these conflicts have proven to be a bone of contention among provinces. An accord

³⁴ Jon Barnett and W. Neil Adger, "Climate change, human security and violent conflict," *Political Geography* 26, no. 6 (2007): 639-655

³⁵ Zahid Hussain, "Population and Security," *Dawn*, last modified October 24, 2018, <https://www.dawn.com/news/1441013>.

³⁶ Ibid.

was signed in 1991 among all provinces.³⁷ The legitimacy of the accord has been in question since its signing, supposedly because of the political setup in Sindh when it was signed.³⁸ In fact, the implementation of this accord has not appeased all provinces due to lack of transparency and trust in the implementation of the allocations under the accord.

Accords are signed in various countries to resolve interprovincial or interregional conflicts with scrupulous dealing of details and future issues. Accords like the Colorado Compact in the US and the Murray Darling Agreement in Australia are examples.

With clear agreement, a rigorous, calibrated system for measuring water inflows, storages and outflows can be put in place. Additionally, all measurements ought to be audited by an independent third party and all reporting ought to be transparent and available in real time for all parties to scrutinise.³⁹

In case of water scarcity, cooperation and agreement is required to resolve all conflicts including formation of new water reservoirs without which grievances among provinces will be harmful for the Federation.

Industrial Agriculture Conflict and Climate Change

In view of Pakistan's evolution to an urban and industrial economy, the sector's competition with agriculture for water resources is likely to increase. Some commentators have mentioned their concerns over water tension between agriculture and urban (industrial) sectors. Sometimes, water is cut off in the big cities like Karachi. Over this issue, protestors often create agitation on streets claiming that landowners have dispossessed them of water for agricultural use. Conflicts over water use are a complete cycle. Rural residents migrate to cities to escape violence and lost livelihoods (notably agriculture), only to use the urban water supply system that competes with agricultural water use.⁴⁰

Due to the social and political power structure, more than 80 sugar mills have been established in the country. However, sugarcane production is not

³⁷ Apportionment of Water of Indus River System Between the Provinces of Pakistan," Indus River System Authority, accessed December 1, 2018, <http://pakirsa.gov.pk/WAA.aspx>.

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ Ibid.

ecologically suited to an arid region like Pakistan. Lands with decisively low groundwater levels have large standing crops of sugarcane as well as rice, the other water intensive crop. Farmers are urged to grow sugar to maintain supply demand for these mills. This is in context to the sugar industry being the second highest capitalisation in the Pakistani stock market.⁴¹

Conclusion

After detailed research into the relationship between variation in internal conflicts and climate change effects, this paper has concluded that climate change can also affect Pakistan's relationship with countries in its neighbourhood, also exacerbating conflict inside the country. Pakistan does not need to merely diversify its economy concentrating its dependency on only one sector, only to jeopardise country's security. In fact an alluring agricultural policy is much needed; a policy which strictly regularises the cultivation of the crops that use less water, enough to fulfil domestic and international need.

Likewise, climate change is escalating interior conflicts as well. Pakistan has been engaged in prolonged terrorism. Due to climate change, people particularly the youth of the rural areas are losing their jobs and statuses. It is a need of the hour that the state should execute youth centric economic and social policies to provide jobs to the youth both in rural and urban areas as well as educate them as to how to live a moderate life rather than indulge in terrorism.

Moreover, It is also much needed that the Government should strive to reduce rural to urban migration by providing rural population with jobs and other facilities like health, education and infrastructure. A policy should be incorporated that provides a suitable share of natural resources like water to both rural and urban areas. The Government must provide all basic necessities like water and housing to the urban population properly. In addition, they need to give more focus to the poor masses which can stop conflicts in urban areas.

Pakistan is a Federation of four provinces. The lack of cooperation has exacerbated the identity crisis among them. Additionally, dispute over the water issue in light of climate change and in the absence of a clear treaty

⁴¹ Ibid.

among provinces has lead to provincial clashes. Post 18th Amendment in the Constitution of Pakistan, a sound consensus is required to solve issues among provinces. More so, climate change issues among all provinces should be tackled by censuses. The detailed study presented in this paper has found all possible actors which can affect human security of masses and lead towards violent conflicts threatening national security. Possible measures ought to be taken by state institutions to prevent instability and disharmony.