

COP21 Paris: Pakistan and a New Global Climate Regime

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Abstract

In today's globalised world environmental factors are going to play a major role in not so distant a future, in the social and economic development of countries, especially the underdeveloped ones. We cannot comprehend the magnitude of these changes right now especially in Pakistan, where environmental degradation is already having a major impact, be it through changing climate patterns, or increased number of natural calamities. Conference of Parties (COP21) was a United Nation (UN) Conference on Climate Change in Paris, held between November-December 2015, to put these environmental changes into perspective and find solutions for them. The major outcome of this conference was the Paris Agreement. In September 2015, during the 70th United Nation General Assembly (UNGA) meeting, which was a precursor to the COP21 Conference, the implementation of Sustainable Development Goals (SDGs) was approved. Pakistan is one of the countries, already suffering from the effects of climate change and water insecurity issues, falls into the category of water stressed states. As one of the signatories of the Paris Agreement, it gives a great opportunity to Pakistan to seek help from the international community to deal better with its environmental issues. As Pakistan is an agrarian economy, any drastic changes in the environment will have an adverse impact on its national economy. This paper will evaluate the vulnerability of Pakistan to the phenomenon of climate change, and the deleterious impact it can have on the per capita income, water security, and food-energy nexus of the people of Pakistan; and will suggest as to how the policy makers of the country can place it on the path towards green economy, as envisioned by the government's Vision 2025 plan.

Keywords: COP21, Climate Change, Environmental Degradation, Water Insecurity, Vision 2025, Food-Energy Nexus.

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Literature Review and Theoretical Framework

The study of climate change has become an increasingly important part of the larger policy formulation framework. It has many different facets and relevance for the world at large, and especially for developing countries like Pakistan. In the past, policy makers, when dealing with climate change adaptation strategies, placed greater emphasis on terms like uncertainty, variability, vulnerability, resilience and adaptive capacity. On the other hand, COP21 can be seen as a turning point on the international stage with a changed approach to climate change adaptation strategies to focus more on non-physical issues and changing their orientation towards socio-cultural aspects. COP21, therefore, marks a shift from global efforts to domestic actions on climate change, with a commitment to reduce the carbon foot print. There is not a large body of literature available about COP21 as it is a recent event, especially with regards to Pakistan. According to Tanuro,¹ COP21 builds upon the recommendations of the Copenhagen Conference of 2009, to keep the temperature rise this century to less than 2 degree above the pre-industrial level under pressure from the most threatened countries, confirming that there is greater understanding around the world with regards to climate change. Dobrev² says that climate change is an ongoing process, unfolding over decades, and it needs a long-term commitment. While the future benefits carry a large degree of uncertainty, the costs associated with overhauling existing energy systems are considerable and can interfere in the near-term with goals of development and economic growth, which is a cause of concern for many developing countries.

In Pakistan, research has been carried out by a few domestic and international institutions, which highlights the vulnerability of Pakistan to the changing climate. According to the studies carried out by Sustainable Development Institute (SDPI)³ and United Nations

¹ Daniel Tanuro, "Spectre of Geoengineering Haunts Paris Climate Deal," *Climate and Capitalism*, January 15, 2016, <http://climateandcapitalism.com/2016/01/25/the-specter-of-geoengineering-haunts-the-paris-climate-agreement/>

² Boyan Dobrev, "COP 21: There is a Way to Beat Climate Change," *Geopolitical Monitor*, December 11, 2015, <https://www.geopoliticalmonitor.com/cop-21-there-is-a-way-to-beat-climate-change/>

³ Shaheen Rafi Khan, "Does Climate Change Matter in Pakistan?," *SDPI Working Paper Series # 58* (2001): 1-14.

Framework Convention on Climate Change (UNFCCC),⁴ Pakistan is both energy deficient and energy profligate. These aspects define the energy-environment nexus and establish its national versus global context. Energy inefficiency tends to have direct and adverse environmental consequences. Pakistan is a country which, owing to its peculiar geographical circumstances, is highly impacted by any changes in climate, making it one of the most vulnerable countries. According to Yu,⁵ climate change will have a serious impact on the Indus Basin, and have a negative impact on the agricultural economy of Pakistan. The climate variability will also affect the agrarian sustainability and food production. The existing literature can and should be used as a starting point for any proposed research on the topic at hand; but there exist certain limitations, which needs to be overcome. This study intends to fill these gaps in the literature so that the future research in the field can be more comprehensive, especially, when doing research work on Pakistan's progress on the COP21 agenda. There is a dearth of research, which looks at the aforementioned relationship in a completely dynamic framework, therefore, the proposed study will try to establish a suitable context looking at both economic and political elements of climate change issue in Pakistan.

Introduction

The industrialisation and urbanisation process around the world has adversely affected the environment we live in. The negative effects on economic growth and development can be seen in the form of climate change and erratic weather patterns.⁶ The developing countries including Pakistan are suffering the most from these changes. Pakistan is among the top 10 countries, which have been severely affected by climate change.⁷ Sustainable development cannot be achieved if environmental

⁴ Malik Amin Aslam Khan, "National Economic & Environmental Development Study (NEEDS)," *UNFCCC*, February, 2011, 100.

⁵ Winston Yu, et al., eds., *The Indus Basin of Pakistan: The Impacts of Climate Risks on Water and Agriculture* (Washington, DC: World Bank Publications, 2013), 184.

⁶ R. K. Pachauri, and A. Reisinger, "Climate Change 2007: Synthesis Report," Intergovernmental Panel on Climate Change, December 2007, 104.

⁷ Nadeem Javed, "The Pakistan Millennium Development Goals Report (PMDGR) 2013," *PMDGR Report* (2013), http://pc.gov.pk/PMDGR-2013/PMDGR2013_Summary.pdf

degradation goes unabated. In the 70th UNGA meeting in 2015, the UN put forward its long-term development plan into motion in the form of its new SDGs. The SDGs consist of 17 major goals, with goal number 13 framed as, “take urgent action to combat climate change and its impacts,”⁸ exclusively deals with climate issues and how they relate to sustainable development going forward. The SDGs that came into action in 2015, which will last till 2030, are mainly aimed at helping the developing countries to pursue their economic growth, whilst having minimum negative impact on the environment.

The Industrial Revolution of the 18th century that took place mainly in Europe, specifically England, changed the face of the world we live in today. But over the past two centuries, the rapid pace of industry-led growth and urbanisation managed to disturb the delicate balance of nature, the consequences of which are becoming more evident now. Pakistan is among those developing countries that have borne the brunt of climate change, especially in the recent past in the form of severe flooding and drought like situations throughout the country. Pakistan is faced with a situation of food insecurity stemming out of water scarcity and environmental degradation issues, making the country a water-stressed nation. Due to lack of resources and technological know-how, the developing world has been facing the imminent threat from issues arising out of climate change, and are, therefore, unable to solve this problem successfully. As Pakistan is an agrarian society, it is heavily dependent upon the water flowing in its main river system, the Indus Basin. The Indus Basin River System originate in the Himalayas, according to the UN World Water Development Report 2012,⁹ due to climate change and global warming the Himalayan glaciers are melting at an alarming rate, creating more uncertainty in the quantity and quality of water supply over the long-term. Less water availability means shrinking size of the irrigated area, causing a situation of food insecurity

⁸ Lauren Boucher, “Sustainable Development Goals vs. Millennium Development Goals: What You Need To Know,” *Population Education*, May 01, 2015, <https://www.populationeducation.org/content/sustainable-development-goals-vs-millennium-development-goals-what-you-need-know>

⁹ United Nations Educational, Scientific and Cultural Organisation (UNESCO), “Managing Water under Uncertainty and Risk,” *The United Nations World Water Development Report 4*, 2012, 909.

in Pakistan, thereby having a direct effect on the economic development of the country.

Sustainable development cannot be achieved if environmental degradation continues worldwide. Pakistan, for its part, has already planned to adopt SDGs completely as it complement the government's Vision 2025 development policy. One part of this policy deals with Pakistan trying to turn its economy into a green economy, by introducing environmental friendly development methods. Pakistan is already categorised as a water stressed state and after becoming a signatory to the Paris Agreement, Pakistan can seek help from the international community to address its environmental challenges. As Pakistan is an agrarian economy and any drastic changes in the climate will have adverse effects on the economy of the country. This is a less traversed subject and aim of this paper will be to try and evaluate the vulnerability of Pakistan to the phenomenon of climate change, and the worsening impact it can have on the per capita income, water insecurity, and food-energy situation of the people of Pakistan; and how it can deal with it through the opportunities provided by the international agreements like the SDGs and COP21.

Pakistan and Climate Change

According to National Aeronautics and Space Administration (NASA), climate change refers to “a change in the typical or average weather of a region or city. This could be a change in a region’s average annual rainfall, for example. Or it could be a change in a city’s average temperature for a given month or season. Climate change is also a change in Earth’s overall climate. This could be a change in Earth’s average temperature, for example. Or it could be a change in Earth’s typical precipitation patterns.”¹⁰ There are two avenues through which climate change is taking place; one is through the natural phenomenon and the other through unnatural means. The natural process involves the Sun warming up the Earth, when it goes through its yearly orbit. The unnatural means include global warming and environmental degradation

¹⁰ National Aeronautics and Space Administration (NASA), “What Are Climate and Climate Change?” *NASA Knows Series*, October 26, 2011, <http://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html>

caused by human activities. This second method of climate change has been gaining more and more attention over the past two decades among scientists as it is accelerating the rate at which the Earth is warming up. Global warming, which is continuous increase in the temperature of Earth is mostly due to greenhouse gases. Earth's average temperature has risen by 1.4°F over the past century, and is projected to rise another 0.5 to 8.6°F over the next hundred years.¹¹

Small changes in the average temperature of the planet can translate into large and potentially dangerous shifts in climate and weather, which can also be seen in Pakistan. Rising global temperatures have been accompanied by erratic changes in weather and climate. The planet's oceans and glaciers have also experienced some big changes — oceans are warming up, ice caps are melting, and sea-levels are rising. In Pakistan, some places have seen changes in rainfall patterns, resulting in more floods, droughts, intense rain, and more frequent and severe heat waves. As these and other changes become more pronounced in the coming decades, they are likely to present severe challenges to our society and our environment. The government have to be proactive in preventing this kind of scenario by putting in place effective and long-term policies, which are in-line with the SDGs agreement of which Pakistan is a signatory. Pakistan can also benefit by seeking help from the international community against further environmental degradation happening in the country, through technological know-how and financial assistance.

The Indus Basin depends heavily on the glaciers of the western Himalayas, which act as a reservoir, capturing snow and rain, holding the water and releasing it into the rivers, which feed the plains. Climate change is already affecting these western glaciers in a dramatic fashion. There are 18,495 glaciers, which are source of water in the Indus Basin. These glaciers are melting due to the increase in the temperature, which has resulted in the creation of glacial lakes.¹² Such lakes pose danger not

¹¹ United States Environment Protection Agency (EPA), "Climate Change is Happening," *EPA Climate Change: Basic Information*, 2013, <https://www3.epa.gov/climatechange/basics/>

¹² Akhtar Ali, "Indus Basin Floods: Mechanisms, Impacts, and Management," *ADB Report*, October 2013, <http://www.adb.org/publications/indus-basin-floods-mechanisms-impacts-and-management>

only to the people living in the surrounding areas, but also stop the water reaching the downstream till water bursts the banks and results in flash flood. The fast melting of these glaciers means that, in the long run, Pakistan will face shortage of water from its biggest source of water in the Indus Basin. Glacial area of Pakistan covers approximately 13,700 km², which is 13 per cent of the mountains of the upper Indus Basin. The glaciers in the Himalayas are reducing faster than any other part of the world; if glaciers continue to reduce at the current rate they would disappear by the year 2035.¹³

The UN Environment Programme (UNEP) published a report titled “Vital Water Graphics,” that lists Pakistan among the countries that will be worst affected by the water shortages, as it uses 75 per cent of its water for agriculture purposes and only 5 per cent is used for domestic consumption.¹⁴ This puts Pakistan in a precarious position as the South Asian region is already seriously affected by climate change. Furthermore, effects of increased pollution and global warming have made Pakistan’s weather more unpredictable. There are now longer dry spells and shorter sudden heavy showers, replacing the usually predictable summer monsoon cycle. Climate change is not only affecting the delicate balance of air pressure and temperature that result into monsoon rain, but also the timing and location as well. Over the past three years rain-fed areas have received more summer monsoon rain than before, having a direct impact on the catchment areas of different tributaries of the Indus Basin.¹⁵ As the rain patterns are changing, it will affect the cultivation of different crops, especially rice, which needs more water and additional rains for better yield. This will have a direct effect on the Gross Domestic Product (GOP) of the country as agriculture accounts for more than 20 per cent of the GDP, according to the recent Economic Survey of Pakistan.¹⁶ Flash floods will be recurring phenomenon in South Asia due to changed pattern of monsoons. The intensity of rain has increased, but the duration of monsoon has shortened. This has resulted in

¹³ Ali, “Indus Basin Floods.”

¹⁴ Salif Diop, Patrick M’mayi, and Dennis Lisbjerg, “Vital Water Graphics,” *United Nations Environmental Programme (UNEP) Report*, 2008, <http://www.unep.org/dewa/vitalwater/>

¹⁵ Saiyid Ali Naqvi, *Indus Waters and Social Change: The Evolution and Transition of Agrarian Society in Pakistan* (Karachi: Oxford University Press, 2012), 844.

¹⁶ S. Ejaz Wasti, et al., “Pakistan Economic Survey 2014-15,” *Pakistan Economic Survey 2014-15* (2015), http://www.finance.gov.pk/survey_1415.html

heavy rains in a very limited time window in the monsoon season. Flash floods of 2010 were the direct result of this changing monsoon pattern. The devastating 2010 flood caused damages of about US\$10 billion. The floods damaged two million houses and displaced over 20 million people. Agriculture and livestock sectors suffered the most damage.¹⁷

Agriculture generates productive employment opportunities for 45 per cent of the country's labour force while 60 per cent of the rural population depends upon this sector for its livelihood.¹⁸ There are other industries as well, which directly depend on agriculture for raw materials, like the textile sector, and a bad cropping season could affect a large chunk of the population working in the textile industry. Rice and wheat, which are staple crops of Pakistan, are heavily dependent on excessive supply of water. The existing water resources are under stress already. As existing water sources are running dry, the irrigated agricultural area is also shrinking. Irrigated agricultural area of Pakistan during 2004-2008, which was around 75 per cent of the total agricultural area, has already decreased to 70 per cent of the total agricultural area from 2011-2015.¹⁹ Another problem that Pakistan faces is that there is no additional water source that can be brought into the irrigation system in the near future, which could simultaneously alleviate the problem of water and energy. The China Pakistan Economic Corridor (CPEC) aims at investing almost US\$35 billion in the energy sector through building of dams and coal-based power houses.²⁰ Construction of additional water storage facilities may alleviate the water scarcity to some extent; but burning of fossil fuels will also exacerbate the climate change issue as it leads to global warming, therefore, a thorough environmental impact assessment needs to be carried out by the government before implementing these projects.

People living in the coastal areas of Pakistan, especially in the provinces of Sindh and Balochistan, are dependent on fishing industry,

¹⁷ Sakib Sherani, "Floods of Misery," *Dawn*, September 19, 2014, <http://www.dawn.com/news/1132797>

¹⁸ Omer Farooq, "Pakistan Economic Survey 2012-13: Agriculture," *Pakistan Economic Survey 2012-13* (2013), http://www.finance.gov.pk/survey_1213.html

¹⁹ "Pakistan: Economy," *Asian Development Bank Report* (2015), <http://www.adb.org/countries/pakistan/economy>

²⁰ Hussain Ahmad Siddiqi, "CPEC Projects: Status, Cost and Benefits," *Dawn*, July 13, 2015, <http://www.dawn.com/news/1194014>

both sweet water fishery in rivers and canals, and maritime fishery off the coast for earning money. As existing water resources are under stress, it is not possible to maintain environmental flows (To sustain the marine life, there has to be minimum flow of fresh water into the sea around the year, which are called environmental flows) from Kotri Barrage to Arabian Sea. As per Water Apportionment Accord signed on March 21, 1991, a water sharing formula was agreed between provinces.²¹ But it has the potential to become a bone of contention between the provinces, as water is becoming scarce. People in Sindh have serious reservations against this arrangement and call for more equitable distribution of water. Already there are demands within Indus River System Authority (IRSA) for a new formula of water distribution, where lower riparian provinces get more water.²² The other side effect of not releasing water to the sea is that it keeps eroding the agricultural land near the delta. As sea-level is rising, the sea is encroaching more and more on coastal land. As ice on the poles is also melting due to climate change, sea-level will continue to rise. Antarctica is now losing about 160 billion tonnes of ice every year to the ocean, twice as much as when the continent was last surveyed, with melt loss continuously pushing up global sea-levels by around 0.43mm per year.²³ This is also causing a rise in sea-level in the Arabian Sea, which will be a problem for people living in the coastal areas of Pakistan.

Water, energy and food are inextricably linked. Water is an important input for producing agricultural goods in the fields and along the entire agro-food supply chain. Energy is required to produce and distribute water and food: to pump water from groundwater or surface water sources, to power tractors and irrigation machinery, and to process and transport agricultural goods.²⁴ Using water to irrigate crops might promote food production, but it can also reduce river flows and hydropower potential. Over the last few decades, there is a growing concern across the globe to protect the environment as well as to

²¹ Muhammad Idris Rajput, "Inter-Provincial Water Issues in Pakistan," *PILDAT Report*, January 2011, 1-29.

²² Mohammad Hussain Khan, "Seeking a Fair Share of Water," *Dawn*, July 19, 2012, <https://www.dawn.com/news/735434>

²³ Jonathan Amos, "Esa's Cryosat Mission Sees Antarctic Ice Losses Double," *BBC News*, May 19, 2014, <http://www.bbc.com/news/science-environment-27465050>

²⁴ UN Water, "Water, Food and Energy Nexus," *UN World Water Development Report*, March 21, 2014, 230.

maintain the development processes. As there is a trade-off between economic growth and environment it creates challenges for the policy makers to adopt policy to continue the economic growth while simultaneously protecting the environment. This is only possible if the nature of environmental problems related to development can be identified and the necessary measures are taken mitigate them. Increasing population, stagnating food production and environmental degradation are major catalysts for rising food insecurity in Pakistan. The reduction of water flow also causing a reduction in the power generation capacity of the hydropower projects in the country, crippling the already downgraded energy sector. Another challenge arising out of this nexus is the rising food prices due to hindrances in the food production capacity. There are many synergies and trade-offs between water and energy use and food production. Using water to irrigate crops might promote food production, but it can also reduce river flows and hydropower potential. Converting surface irrigation into high efficiency pressurised irrigation may save water, but may also result in higher energy use. Recognising these synergies and balancing these trade-offs is central to ensuring water, energy, and food security.

Pakistan, being a developing country, is faced with the fragile environmental conditions and has limited financial means and inadequate managerial and political resources to address the environmental degradation challenges. This threatens long-term development of the country, leading to a decrease in the quality of life and living standards. Focus on development from a water-energy-food nexus perspective should be the government's main priority as it is central to achieving a green economy according to Vision 2025 and sustainable socio-economic development in the country.²⁵ Over the last few decades, there has been a growing concern inside the Pakistan government to protect the environment as well as to maintain the development. To offset the adverse effects of environmental degradation of recent years, the federal government has increased the allocation for the environment by 12.7 per cent from PKR 936 million for 2014-15 to PKR 1.055 billion for 2015-16, in the budget for the fiscal year 2015-16.²⁶ Under Vision 2025, Pakistan

²⁵ Nadeem Javed, et.al., "Pakistan Vision 2025 approved by National Economic Council (NEC)," *Pakistan Vision 2025 Complete Document* (May 30, 2014), <http://www.pc.gov.pk/wp-content/uploads/2015/05/Pakistan-Vision-2025.pdf>

²⁶ Op. cit., 11.

Environmental Protection Agency (Pak-EPA), which was established under section (5) of Pakistan Environmental Protection Act, (PEPA) 1997,²⁷ has been provided with an enhanced agenda of environment protection inside the country to sustain the green economy vision of the government.

Road to COP21 and Paris Agreement

COP21 led to an unprecedented Paris Agreement, where almost 200 countries signed a landmark agreement on climate change, and for the first time, agreed to take action to restrain greenhouse gas emissions. This was achieved after two weeks of relentless negotiations, where all nations of the world came up with a new deal that target to stop the release of heat-trapping gases into the atmosphere by 2050.²⁸ The outstanding achievement of the Paris Agreement, which will come into effect in 2020, is that all countries will be required to work on climate change. As per the deal, the world will aim to even out global warming well below 2 degree above pre-industrial levels, and even less if possible.²⁹ In essence, the road to COP21 began in Rio in 1992, where the UNFCCC was held and recognition was accorded to the then nascent issue of climate change. The developed countries did not become signatories to any agreement as they believed that the problem of global warming was not such a big threat. The first COP was held in 1995 in Berlin, and from there on a meeting has been held on an annual basis. In 1997, the COP3, held in Kyoto, adopted the Kyoto Protocol, the world's first greenhouse gas emission reduction treaty, which came into force in 2005.³⁰ The major developed countries like the US still stayed away from signing the protocol. The announcement of the Paris Agreement would have seemed far-fetched six years ago after the Copenhagen Climate Summit devolved into bitter squabbling between powerful developed and developing nations as they struggled to find a successor to the 1997 Kyoto Protocol. But the Paris pact was smoothed by a decision to

²⁷ Imaan Mazari Hazir, "Environment and the Law," *News International*, December 25, 2015, <http://www.thenews.com.pk/print/84217-Environment-and-the-law>

²⁸ "United Nations Conference on Climate Change," *United Nations*, November 30-December 12, 2015, <http://www.cop21.gouv.fr/en/>

²⁹ Justin Worland, "What to Know About the Historic 'Paris Agreement' on Climate Change," *Time*, December 12, 2015, <http://time.com/4146764/paris-agreement-climate-cop-21/>

³⁰ UN, "Towards a Climate Agreement," *UN and Climate Change*, 2015, <http://www.un.org/climatechange/towards-a-climate-agreement/>

allow countries to offer their own pledges to cut emissions, rather than have goals forced on them through the UN process.

Even if fulfilled, the climate targets will still leave the planet on the path to what scientists say would be dangerous global warming, estimated to be about 2.7 degrees above pre-industrial times.³¹ Scientists warn that scale of increase would unlock more extreme weather and accelerate sea-level rises, among other impacts. In a bid to spur governments to lift their ambition, the Paris accord includes a series of reviews of emission targets that countries will need to meet. These reviews will start in 2020, two years after a collective assessment in 2018, of how the world is faring on emissions and other parts of the agreement.³² Reviews will then occur every five years. Under the deal, countries will only be allowed to make targets more ambitious, not less. While the agreement seeks to limit warming to below 2 degrees, it also asks countries to pursue efforts to keep temperatures below 1.5 degrees. This was the central demand in Paris from vulnerable nations, such as low-lying Pacific islands, which could be wiped off the face of the planet with ever increasing sea-levels in not too distant a future. According to the terms of the agreement greenhouse gas emissions should reach a peak as soon as possible and then start declining rapidly, in order for the total amount of atmospheric pollution to be brought at zero level by the latter half of the century.³³ The industrialised nations agreed in principle to deliver a minimum of US\$100 billion a year in public and private funding to help poorer nations cope with the impacts of climate change and cut their emissions. That figure will be reviewed upwards in 2025.

³¹ Monica Araya, "No Time to Rest: After the Paris Climate Agreement, What Next?" *Stanley Foundation*, May 5, 2015,

<http://www.stanleyfoundation.org/articles.cfm?id=819>

³² Jonah Busch, "High Marks for the Paris Climate Agreement," *Centre for Global Development*, December 11, 2015, <http://www.cgdev.org/blog/high-marks-paris-climate-agreement>

³³ Suzanne Goldenberg et.al., "Paris Climate Deal: Nearly 200 Nations Sign in End of Fossil Fuel Era," *Guardian*, December 12, 2015,

<http://www.theguardian.com/environment/2015/dec/12/paris-climate-deal-200-nations-sign-finish-fossil-fuel-era>

Recommendations

Considering the issue of climate change and its importance, there is a need to develop policies at two different levels i.e. macro level policies and micro level policies. Macro level policies may include the steps to deal with this challenge internationally and on regional level whereas, micro level policies will deal with the issues arising within the Pakistan. Regionally, Pakistan needs to redefine its mechanism of water sharing with not only India but also with Afghanistan. Also on the international level, Pakistan being a developing country can get the necessary help from the UN and other developed countries in its fight against climate change, as it is a signatory of both the SDGs and Paris Agreement. Both these agreements guarantee help for Pakistan, if it gets its policies in order, it can reap major benefits from both the agreements. At the micro level Pakistan needs reliable data sources and future modelling to forecast changes associated with Climate Change in the upcoming decades. For this purpose, awareness programmes on pollution reduction, water management, effective irrigation techniques should be conducted by the Ministry of Climate Change. Putting inter-provincial harmony in practice, all the provinces should follow the rules and regulations of 1991 water apportionment accord. In solving intra-state boundary issues all the stake holders can be brought to one negotiation table to find a mid-way solution to the water distribution issue among provinces. There is a dire need to transform our motives from sharing shortages to sharing benefits. Those provinces who consume less water than their share may sell water to others who are facing shortages. For this purpose, they can fix mutually agreed sale price.

Going by the current government's policy, Pakistan needs a more methodical approach towards development of the country than it has been employing in the past to fulfil its short and long-term goals. Presently, the government is propagating its Vision 2025 without leaving any stone unturned. The government has linked the achievement of solving climate change issue with successful implementation of its Vision 2025 agenda, as it aligns with the SDGs, to achieve economic progress; and provide welfare to the people by building upon national strategies and international development goals.³⁴ The Vision 2025 is a

³⁴ A Reporter, "Pakistan to Take on Sustainable Development Goals on its Own," *Dawn*, October 6, 2015, <http://www.dawn.com/news/1211217>

programme developed by the Ministry of Planning and Development, which aims to achieve four main tasks. Firstly, it will try to build a national consensual view between national and international stakeholders regarding the future direction of the country. Secondly, it will set out future goals and expectations, which are meant to be translated into a tangible roadmap and provide a coherent strategy for well-adjusted human, social, and economic development. Thirdly, it will try to provide a theoretical framework for the revitalisation of sustainable and inclusive growth in the country, by strengthening the development fundamentals and enabling the country to achieve the international development goals within their given time frame, so that welfare of the people can be improved through increased human development and achievement of high income status. Lastly, the Vision will look to provide home-grown framework and methodology to meet all globally agreed targets, including the SDGs, Paris Agreement and any new development goals, which have been acceded to by the Pakistani state in the international arena.³⁵ The government has also taken some important measures for controlling environmental health issues by enacting provisions like prohibition of smoking in public places (Prohibition of Smoking and Protection of Non-smokers Health Ordinance 2002), and creating a cleaner environment through various tree planting schemes.³⁶

Conclusion

Despite that Pakistan's government has established a Ministry for Climate Change and approved National Climate Change Policy,³⁷ no practical measures have been taken to anticipate the coming negative effects of climate change. Economy of Pakistan has remained mostly insulated from the global financial crisis of 2008, as it is an agrarian

³⁵ ISSRA, "A Roadmap to Vision 2025," *National Defence University (NDU) Workshop Report*, 2014, 37.

³⁶ Kamal Hyder, "Pakistan Investing \$150m in Billion-tree Reforestation," *Al Jazeera*, April 30, 2015, <http://www.aljazeera.com/news/2015/04/pakistan-investing-150m-billion-tree-reforestation-150430135404923.html>

³⁷ Qamar uz Zaman Chaudhry, "Framework for Implementation of Climate Change Policy," *Government of Pakistan Climate Change Division Publication*, November 2013, 93, <http://www.mocc.gov.pk/gop/index.php?q=aHR0cDovLzE5Mi4xNjguNzAuMTM2L21vY2xjL2ZybURldGFpbHMuYXNweD9pZD0xNCZhbnXA7b3B0PXBvbGljaWVz>

economy. If Pakistan does not take proper institutional steps and makes practical policies, climate change will bring us our Great Depression in reverse. Pakistan has the lowest ration of water conservation in South Asia, therefore, new dams must be built on emergency basis and available water must be stored as soon as possible. If we do not, Pakistani society will not have reasonable chances of transforming its agrarian economy into industrial economy. Pakistan's economic growth cannot afford to lose any more time in translating the ambitious SDGs agenda into an effective action plan at the national level. This will be a major challenge for the government as any delay in the implementation of SDGs would be much costlier unlike in the case of MDGs. With the implementation of SDGs development of a proper climate policy becomes a must as it is among one of its major goals.

Plans of an economic corridor, the CPEC linking Kashgar in China to the Pakistani port of Gwadar, has the potential to be the mega project that could significantly boost private investment and growth in the coming years. But before moving on this project environmental studies need to be carried out on every project envisioned in the CPEC, which can be a game changer for the country in the coming years. Therefore, the government should establish a division within the Climate Ministry to vet each project and make sure it follows internal environmental guidelines. Climate change is manmade reality that will have catastrophic effects on people around the world if something is not done about it in the present. Not only people but other living organism will be having their share of the problems unless drastic measures are taken to minimise the effects of climate change. Therefore, Pakistan should not allow any shortcuts in the implementation of the Paris Agreement during the implementation of CPEC projects.

The Paris Agreement, if adopted properly can guide and focus development priorities, but for this to happen, dedicated implementation measures are needed to be taken by the government to make a difference. In order to achieve real progress towards sustainable development, the means of implementation must be closely aligned and comprehensibly followed with the direction advocated by the SDGs indicators. In order to maximise the efficiency, the interlinkages between separate goals of development should be clearly documented by the government and then transformed into clear short, medium, and long-term policies. If some

strategy suits a country, it is not necessary it would suit Pakistan as well, therefore, thorough research would need to be put in place, and for this universities and different think tanks can be employed by the government to come-up with suitable tools regarding each goal. Pakistan will have to identify certain goals, depending on the availability of resources and capacity to implement. It is clear that additional financing that meets the conditions of environmental and social sustainability will be required. If the objectives of water, energy, and food security are to be simultaneously achieved in Pakistan, decision-makers, including those responsible for only a single sector, need to consider broader influences and cross-sectoral impacts. A nexus approach to sectoral management, through enhanced dialogue, collaboration and coordination, is needed to ensure that co-benefits and trade-offs are considered and that appropriate safeguards are put in place. To adequately address the nexus challenges, improved management of the upstream ecosystem is required, both at intra and inter levels in the region, by harmonising policies taking into account the interdependence of all three factors. This is a critical juncture, where formation and adherence to environmental protection policies can put the country on the path of sustainable development and achieving its vision of a ‘Green Economy.’