(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

Sustainable Environmental Development Goals: A Comparative Analysis of India and Pakistan

Dr. Tahira Parveen
Dr. Anwar shah
Brigadier Dr. Muhammad Naeem Akbar Qazi
Assistant Professor Department of IR and Political Science Lahore Garrison University Lahore
tahiraparveen@lgu.edu.pk
Assistant Professor, Dr. Khan Shaheed Government College, Kabal Swat.
manalshah6@gmail.com
Phd Graduate from Minhaj University

Abstract
India and Pakistan the two neighboring countries have diverse socio-economic and environmental backgrounds. The both nations have adapted policy frameworks to pursue the objectives of sustainable environmental development. the combination of the qualitative and the quantitative data, the analysis encompasses key environmental indicators, such as air and water quality, biodiversity conservation, renewable energy adoption and waste management. The comparative framework aims to identify commonalities and disparities in the implementation of SDGs, shedding light on the effectiveness of environmental policies and initiatives in each country. Factors contributing to successful outcomes or hindrances are critically examined, considering geopolitical, economic and cultural influences. The study explores the role of international collaborations and partnerships in advancing sustainable environmental practices within the region. Through a multidimensional lens, the research not only assesses the current status of environmental sustainability in India and Pakistan but also offers insights into future trajectories. The findings contribute to the global discourse on achieving the SDGs and provide policymakers, researchers and stakeholders with valuable perspectives on the formulation and refinement of strategies for sustainable environmental development in South Asia.

Keywords: Environmental sustainability, Climate change, Renewable energy, Air quality, Green technology, Waste management

1.1 Introduction

According to the international cooperation theory, international actors make a consensus over a problem that is affecting the majority mainly the key powers. The most important of all threat is the one to human security. Over time, man has managed to overcome such threats using institutional plate forms. In which United Nations Organization is one of the prestigious and major institution that has further divided into sub-institutions. The United Nations' sustainable development Goals are also known as 'global goals'. These are seventeen (17) goals and hundred and sixty-seven (167) targets all United Nations members' states are agreed to achieve by the end of 2030. They set out the vision for a world free from poverty, hunger climate

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

change, and diseases. Climate change has the central place in SDGs, as number seventeen (17) goal that incorporates to control the rapid change of climate change and global warming also affect the other goals of SDGs like hunger due to rise of heat and temperature and water pollution and atmosphere effects on human health and cause of diseases.

The Sustainable Development Goals (SDGs) aim to promote prosperity, protect the environment, and tackle climate change in all countries, particularly those with low and middle incomes. They prioritize equity, particularly for women, children, and disadvantaged populations. The SDGs build on the Millennium Development Goals (MDGs), which were signed in 2000 to combat poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women by 2015.

Assuring a sustainable future by safeguarding the earth and its natural resources, as well as promoting equality and prosperity for everyone, the Sustainable Development Goals (SDGs) provide global direction for tackling pressing global issues. This study tries to examine the shared climate change issues in India and Pakistan. Although the area may appear remote, rising rates of extreme weather are signs of a significant change in South Asia's climate. Contrary to international issues like trade and security, climate warming cannot be stopped by traditional means or unilateral actions. Instead, coordinated collective action is the realistic path forward for long-term development to lessen the effects of climate change. In Pakistan and India, heat waves have become somewhat of a norm, an expected part of the summer. In reality, just last year, Nawab Shah in Pakistan achieved the high temperature ever measured in the world—50 °C—and a week later, Jacobabad broke the record with a temperature of 51 °C.

This summer's heat waves in India resulted in temperatures of nearly 51°C, resulting in the deaths of nearly 30 people. As hundreds of thousands struggled with the oppressive heat, storms and rain offered little solace. According to experts, According to scientists, the Indus Valley in Pakistan and a sizable chunk of India will surpass the survivability threshold by the year 2100.

The wet-bulb temperature, which is based on both humidity and ambient temperature, was used to gauge survivability. It turns out that even though our bodies are excellent at keeping cool in the heat, things go awry when there is a combination of heat and humidity.The human body can no longer cool itself by perspiring at 35°C, and it switches to survival mode. Even in

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

young, healthy adults in their prime, prolonged exposure to wet-bulb conditions for a few hours can result in immediate mortality.

The Pakistan Council of Research on Water Resources claims that Pakistan officially crossed the water scarcity threshold in 2005. (PCRWR). According to warnings from the PCRWR and the United Nations Development Program, in just six years, there will be a groundwater shortage..Pakistan has one of the lowest rates of agricultural output in the world, and during Rabi 2018–19, unfavourable weather led to the loss of around 1.5 million tonnes of wheat. However, because of a strong monsoon season, India saw thousands of tonnes of ripe wheat. Over 40% of jobs in Pakistan and over 50% of labour in India are generated by agriculture, according to World Bank data.

In the subcontinent, smog has become normal as a prelude to winter harvests, especially in northeastern India. Though the pollution is worse south of the border, farmers burn their fields to get rid of weeds. Thanks to pyrotechnics, Indian Punjab becomes the primary source of pollution in October and November. Pakistan has had approximately 145 catastrophic incidents in the previous 20 years, placing it tenth on the Global Climate Risk Index. Comparatively speaking, India is among the top 20 countries that face the most danger from climate change. Fireworks add to the nation's climate danger by causing pollution.There is no denying that both nations—as well as South Asia as a whole—are extremely vulnerable to the consequences of climate change. Droughts, heavy rains, and flooding are risks that result in lower agricultural income and productivity as well as decreased food security.

An ongoing cycle of heat waves might cause a public health emergency, with both young people and the elderly potentially suffering. In the coming decades, lung and breathing disorders like asthma and cancer could become more prevalent, crippling a whole generation. Collective action, however implausible it may appear given the obstacles Pakistan and India face in combating climate change, may be necessary to protect the lives and livelihoods of future generations..

Climate change concerns in Pakistan and India

2.1 Introduction

In the ongoing conflict between nuclear powers, one of the most dangerous international conflicts involves India and Pakistan, with possibly grave repercussions for South Asia and the

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

larger area. Since 1947, when they gained independence from the British Empire, the two nations have engaged in four wars with one another. The last one, the Kargil conflict in 1999, was fought in the shadow of nuclear war. A new military confrontation, maybe including nuclear weapons this time, has raised concerns in recent years. The India-Pakistan conflict is distinct among nuclear rivalries in that all of the following aggravating factors are present at once: a long shared land border, a contentious territorial dispute, a history of warfare under the shadow of nuclear weapons, a significant use of non-conventional tactics (such as militancy and terrorism), and escalating conflicts over natural resources (water). This, together with the regular exchanges of lethal fire on their border that result in fatalities, makes this rivalry one of the most dangerous and risky in the world.

Anxieties over terrorism and Kashmiri statehood have long fed the India-Pakistan conflict. However, environmental disasters such as climate change are worsening in the twenty-first century, especially in South Asia. Severe droughts, floods, rising sea levels, and cyclone activity are among the harsh weather patterns that the area experiences. Water plays a major role in the rivalry's expression of climate change, especially in the shared Indus River Basin (IRB) made possible by the Indus Waters Treaty (IWT). There are more and more allegations of unlawful water use, making the IWT a sensitive topic. The IRB will likely be greatly influenced by climate change, which will make the water problem more difficult to resolve.Colonial Britain's quick division of the Indian subcontinent broke down centuries-old social bonds and had a terrible human cost in the form of ethnic genocide and economic damage, particularly in the divided province of Punjab. As a result of the split, two tiers of issues—one geographic and the other ideological—remain unresolved. Within months of independence, the mountainous territory of Kashmir was claimed by both countries, which promptly precipitated the first of three wars between India and Pakistan.

The Muslim nationalism that served as Pakistan's organizing principle was pitted against the secular vision of India that its founding fathers had. Both aero planes have increased in size. The IRB is the largest irrigated area in the world from a single river system, with 26 million acres of land under cultivation in India and Pakistan. Since the IRB produces 80% of Pakistan's agricultural output, Pakistan's economy greatly outweighs India's in terms of its importance.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

The IRB is also essential for livelihoods and water supply in northwest India, especially in the states of Punjab, Haryana, and Rajasthan, and the centrally-administered regions of Jammu and Kashmir and Ladakh (although interstate disagreements about water distribution complicate matters). In the IRB, hydroelectric projects are crucial for both nations, but especially for Pakistan's energy requirements. The Western Disturbances (WD), which occur from December to March, and the Indian monsoon, which occurs from June to September, are two primary precipitation cycles that support the IRB. While the Ravi, Sutlej, and Beas get precipitation from the monsoon, the Indus and Jhelum basins predominantly receive it from WD. The divide in Chenab is quite equal. Rivers receive three different types of precipitation: runoff from rainfall, snowmelt, and glacier melt. Rainfall runoff happens practically instantly, whereas snowmelt and glacier melt happen later when temperatures rise at the end of winter.The latter two provide a way to keep rivers flowing throughout the spring and summer. When compared to glacial melt, snowmelt often reaches its peak in the spring. (Savoskul and Smakhtin, 2013)

2.2 Impacts of Climate on IRB

According to scientists, climate change is already having an effect on the IRB. It has been shown that climate change is to blame for rising rainfall and more intense precipitation events across the western Himalayas However, observations of glaciers in the IRB reveal significant regional differences. In Kashmir's far north, where net precipitation due to WD is actually rising, glaciers in the Karakoram mountain range are stable or growing (Krishnan and Sabin, 2019; Muhammad et al., 2019).

The "Karakoram Anomaly" is a peculiar behavior that mostly impacts the Indus River. The other five rivers are largely affected by the fact that glaciers in the western Himalayas, where the majority of the IRB Rivers run through or originate, are decreasing at a significant pace. Scientists have made an effort to predict climate changes on the subcontinent in general, and in the IRB in particular, in the most recent assessment report from the Intergovernmental Panel on Climate Change (IPCC), the international organization that compiles and publishes scientific climatic forecasts on a regular basis. These predictions inherently include uncertainty due to the complexity of climatic processes. Future rains will likely be more intense, and this is much more assured. The India-Pakistan issue has the most use for forecasts, especially for the IRB area.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

According to a study of a climate model, the IRB as a whole is expected to see bursts of rainfall that are more intense and cover a narrower region. Additionally, simulations indicate that the increased precipitation and WD activity over the Karakoram are likely to persist for many more decades. Overall, it would be plausible to infer that although the intensity of precipitation events is expected to rise, the mean precipitation in the IRB is unlikely to decrease in the long term.

Melting glaciers contribute significantly to IRB flows. According to the most recent IRB study on glacier trends, glacier mass along the eastern rivers (assigned to India) is expected to remain constant for most of the century, while there will be a much larger loss of glacier along the western rivers (given to Pakistan), especially the Indus. Ice sheet melt runoff will drastically decrease for the Sutlej after 2050. Since the glaciers are melting, the mean annual flows of the eastern rivers won't fall; rather, in the near future, they'll rise and become much more erratic and seasonal. The heightened volatility will worsen due to an increase in extreme precipitation events and floods caused by glacial lake outbursts (see below). Snowmelt will also occur. Up until around 2070, the glacier-melt flow in the western rivers is expected to increase. After that, it will begin a slow decrease. This is especially true for the Indus River, whose net flow is mostly provided by glaciers and snowmelt up to the Indian border. Because of the Karakoram Anomaly, net flow for this river is predicted to stay constant or even rise until the next century.

2.3 The basin of the Indus River and climate change

2.3.1 The basin of the Indus River

The Indus River Basin (IRB), Asia's greatest river systems, is made up of a number of tributaries, the majority of which are significant rivers in their own right, as well as the Indus itself, which serves as the system's main artery (figure). The Jhelum, Chenab, Ravi, Sutlej, and Beas rivers are among them. Each year, these six rivers transport around 0.2 billion cubic meters of water. The immense Tibetan plateau's westernmost point, the Karakoram, and the Himalayas are where the IRB rivers have their beginnings. Due to its proximity to the north and south poles and its abundance of frozen freshwater, this area has been called the "third pole." One of the main sources of flows in the IRB is the third pole. The Indus River rises in Tibet, runs through the Karakoram mountain range, enters the Pakistani plains, and empties into the Arabian Sea. In

addition to coming from Tibet, the Sutlej also travels through the Himalayas before reaching the lowlands. The Himalayan foothills of India are where the other four rivers originate. Climate change will make Glacial Lake Outburst Floods (GLOF) and other occurrences worse. These floods are brought on by a lake that developed within a glacier collapsing and releasing water all at once. Such lakes are more prone to collapse due to glaciers that are melting more quickly.

Therefore, the main climate risk in the IRB is the rise in the number and severity of flood and flash flood occurrences. Floods are more likely to occur in the spring. Higher summer floods will likely result from both greater rainfall intensity and GLOFs, but beyond 2050, decreased glacier melt flows may also indicate increased summer dry occurrences in eastern rivers. There is a good chance that some of the flooding incidents in the IRB will be more catastrophic than earlier ones, such as the "super flood" that hit Pakistan in 2010 and was partially caused by climate change.

2.3.2 The Indus Water Treaty

After 1947, there were bilateral disagreements on who would use the IRB's waters because of how the subcontinent was split between Pakistan and India. Following numerous rounds of discussions mediated by the World Bank, the two countries.

2.3.3 The Treaty's Structure

The IWT split the six major rivers in half, allowing India unrestricted access to the waters of the three eastern rivers, Ravi, Beas, and Sutlej, and Pakistan full access to the waters of the three western rivers, Indus, Jhelum (known as Neelum in Pakistan), and Chenab. Overall, 133 MAF, or 80% of the IRB waters, went to Pakistan, while 33 MAF, or 20%, went to India. The IWT was divided into parts that outlined each nation's rights and responsibilities with regard to the use of these waters. For instance, India is permitted to utilize western river waters (allocated to Pakistan) for "non-consumptive uses", including hydroelectric power, transportation, a small amount of agriculture, and small-scale storage up to the level of 3.6 MAF.

The pact also contains a system for resolving disputes. The Indian and Pakistani commissioners of the Permanent Indus Commission (PIC) are required to meet at least once a year and conduct inspections of desirable river locations every five years. The PIC is the first place where any issues between the parties are brought up and resolved. A disagreement may be submitted to a court of arbitration if the PIC is unable to settle it. However, if the disagreement is merely

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

technical in nature, it will be decided by a "neutral expert" chosen by the World Bank. Both parties must abide by the verdict.

2.3.4 Multiple Conflicts

Naturally, Pakistan, the downstream nation, has opposed Indian upstream projects with practically all of the IWT's complaints. Negotiations within the PIC itself have already resolved a number of these difficulties, including those concerning India's Dulhasti and Salal dams (Water Power & Dam Construction, 2007). The 900 MW Baglihar hydropower project on the Chenab River and the 330 MW Kishanganga hydropower project on a tributary of the Jhelum River, respectively, were placed outside the PIC's scope. The succeeding rulings, which were handed down in 2007 and 2013, are recognized as turning points in international water law.

A increasing number of challenges are arising from climate change for the 1960-signed Indus Waters Treaty. The IRB is likely to see more flooding occurrences as a result of increased variability in river net flows, even if they have not yet been impacted. India might change the storage levels of its dams, which would intensify floods downstream and seriously damage Pakistani agriculture. Those who live downstream of Indian-controlled dams in Kashmir will also suffer from this. India is worried that Pakistan would accuse it of meddling with water to utilise floods caused by climate change as a geopolitical tool.

The Indus Basin Rivers have a silt issue because of the younger geology of the Himalayas; over time, this silt accumulates behind dams, severely decreasing their effectiveness. Large Pakistani dams in the IRB, including Tarbela and Mangla, already have a serious silt issue. The silt burden, notably in the Jhelum and Chenab rivers, is only rising as a result of deforestation, which is partially a result of climate change. These are the rivers that Pakistan is most opposed to Indian projects on. India is under pressure from the rising silt load to adopt silt-resistant dam designs. Designs that allow flushing far below DSL also enable more sophisticated flow control. The "dual use" character of these designs has the consequence of making Pakistan's assessment of Indian purpose harder and Pakistan's assessment of Pakistan's efforts to thwart Indian initiatives simpler. Climate-related issues are simply escalating mistrust and tensions over the IWT in a context where there is a general lack of trust between India and Pakistan.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

2.3.5 India's Choice

Since 2016, there has been a lot of talk in the Indian and Pakistani media about an Indian withdrawal from the IWT on its own. Putting rhetoric aside, what are India's practical alternatives for the IWT as the effects of climate change worsen, and how can Pakistan respond? India essentially has two options for harming Pakistan in the maritime realm.The first is to make sure that all of the water from the eastern rivers is used for domestic use so that nearly no water goes into Pakistan, as stated by the Indian official Gadkari. This is permitted under the IWT.

Though India has constructed several dams over the years, including the enormous Bhakra-Nangal project, it already uses more than 95% of the water from the eastern rivers (Patel, 2019). Currently, just around 1 MAF enters Pakistan (Hasnain, 2019). The majority of the trickle of traffic that does travel over the border will be absorbed by recently announced developments like Shahpur Kandi. There is minimal risk that these actions would exacerbate bilateral relations since Pakistan does not complain to them (Hasnain, 2019).

It does sometimes seep over the border. In any event, it is unlikely that these actions would cause friction between the two countries since Pakistan does not oppose them (Hasnain, 2019).The second alternative is to stop more of the water from the western rivers from going over the border and into Pakistan. This may be accomplished in Kashmir through dam construction or water diversion. Given the challenging topography in the area, diversion is quite challenging. 7. It is almost impossible because of the high expense and technical difficulties, which are particularly severe for the financially strapped Indian state. This kind of deviation would likewise be blatantly against the treaty.

2.3.6 Pakistan's Alternatives

Pakistan has relied on using the IWT-mandated method to express its concerns and, in the cases of Baglihar and Kishenganga, to sue India in court. India claims that Pakistan raises objections at every level to halt the advancement of projects on western rivers. Since Pakistan is on track to confront severe water shortages as early as 2025, years before India, it uses India as an excuse to cover up for its own serious water management failures. However, Pakistan also has the ability to physically obstruct Indian dam development by encouraging assaults by Kashmiri terrorist groups that Islamabad has a long history of backing. During the early years of the Kashmir

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

insurgency, there was at least one instance of this kind of assault. Any direct clashes that may break out between the two forces on the Kashmir border might potentially be directed against Indian enterprises. The environment for Pakistan and its proxies becomes more target-rich as India completes its projects more quickly.

The United Nations and Sustainable Development Goal Number 13

3.1 Introduction:

The United Nations developed the Sustainable Development Goals (SDGs), sometimes referred to as the Global Goals, in 2015 as a global call to action to eradicate poverty, safeguard the environment, and guarantee that everyone would live in peace and prosperity by the year 2030. In order to achieve development, it is necessary to find a balance between the three pillars of social, economic, and environmental sustainability, as recognised by the 17 Sustainable Development Goals. Aiding individuals who are lagging behind while progressing has become a top priority for many nations. The SDGs aim to eradicate poverty, hunger, AIDS, and discrimination against women and girls..

In the long run, the SDGs Everybody's ingenuity, expertise, financial resources, and access to technology are needed to achieve the SDGs in every circumstance. Climate change threatens not just many of humanity's greatest achievements but also the future ambitions of the 2030 Agenda for Sustainable Development. In order to accomplish the objectives of the global agenda by 2030, SDG13 has not advanced as far as it needs to. The latest four hottest years on record are 2015, 2016, 2017, and 2018, according to the World Meteorological Organisation, making 2018 the fourth warmest year ever. Rising greenhouse gas concentrations, harsh weather, and rising sea levels are examples of global issues. Climate change poses an immediate and direct danger to all of the SDGs as well as to the survival and well-being of coastal populations and island states. States must act swiftly and immediately in order to fulfil their responsibilities under the Paris Climate Agreement and the 2030 Agenda for Sustainable Development..

Action on climate change requires initiatives in capacity development, climate financing, adaptation, and mitigation. The interconnected nature of the Paris Agreement and the 2030 Agenda has been more apparent since their implementation in 2015. The greatest chance for constructive, systemic change that will guarantee resilient societies, successful economies, and a

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

healthy environment for both current and future generations is also presented by this. After the Paris Agreement's rules were finalized at COP24 in Katowice, Poland, in December 2018, a new period of increased ambition to undertake climate action toward achieving the global goal of keeping global warming to 1.50C over pre-industrial levels began.

This includes new or updated nationally determined contributions (NDCs) by 2020 and by scaling up climate action toward both adaptation and mitigation. It is critical to implement in tandem. Without immediate climate action, achieving all other SDGs—including those pertaining to hunger, poverty, access to water, the health of terrestrial and marine ecosystems, gender equality, and the empowerment of women and girls, among others—will be far more difficult. On the other hand, many of the objectives may also be fulfilled in ways that permit climate change adaptation. In comparison to business as usual approaches, the energy transitions envisioned in SDG 7 would greatly reduce greenhouse gas (GHG) emissions. Similar to more sustainable industrialization under SDG 9, resilient agricultural practices and sustainable food production systems under SDG 2, and altering consumption and production patterns in line with SDG 12 can all help to create low-emission pathways, new types of jobs, and long-term progress towards eradicating poverty and other deprivations. The chance to address the 2030 Agenda and the ambition of combating climate change this year is unparalleled.

3.2 Conditions and trends

Current climate change is occurring, and its impacts are plain to see. 2018 had arctic temperatures that were extremely high compared to the long-term trend, and several nations saw their hottest years on record. The global mean temperature is predicted to be 0.99–0.13 °C higher than the preindustrial baseline. The effects are being felt all across the globe, so tackling them calls for a strong two-pronged strategy that includes preparation for adaptation and a decrease in greenhouse gas emissions. Between 1990 and 2017, a million or so individuals were killed or disappeared as a result of catastrophes and risks. About 40% of these are caused by geophysical dangerous occurrences like earthquakes and tsunamis, while the other 60% are due to meteorological and hydrological issues that are made worse by climate change. Countries are aiming to design and put into practise national and local disaster risk reduction strategies by 2020, as required by the goal of the Sendai Framework for Disaster Risk Reduction 2015–2030.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

As of October 2018, 50 countries had reported the status of their local and national plans via the online Sendai Framework Monitoring system.

Human activity-induced increases in greenhouse gases (GHGs) in the atmosphere are the primary driver of climate change. With an average global mole fraction of CO2 of 405.5 0.1 parts per million (ppm) in 2017, greenhouse gas levels skyrocketed. These numbers so reflect the pre-industrial level to the extent of 146%. As of February 2019, 185 parties have ratified the Paris Agreement. Parties to the Paris Agreement are required to organise, publicise, and oversee a sequence of successive nationally determined contributions (NDCs). As of February 27, 2019, 182 parties—plus the European Commission—had submitted their first Nationally Determined Contributions (NDCs). One party has notified its second NDC to the UNFCCC Secretariat.

In comparison to the years 2013–2014, global climate funding flows grew by 17% from 2015–2016. As of May 20, 2019, 28 nations have accessed a total of USD75 million in grant funding from the Green Climate Fund (GCF) for the creation of national adaptation plans (NAPs) and other adaptation planning procedures. Percent of these are earmarked for African states, SIDs, and LDCs.A total of seven more nations' proposals, worth USD 17 million, are now being approved. Nations are requesting a total of USD 191 million in GCF funding for their NAPs and other adaptation planning activities.

3.2.1 Institutional plans for carrying out the SDGs

To successfully implement the SDGs at the national, municipal, sub-regional, and regional levels, a number of institutional adjustments are needed. The modifications are discussed in the section that follows based on how seriously they should be considered. Institutional structures at the national and local levels.

3.2.2 Create a national steering or coordinating organization.

A national coordinating and steering organization is essential for the SDGs' successful implementation given the broad variety of goals they include. Environmental organizations in the majority of South Asian nations first took the initiative in developing the SDGs. However, since the SDGs include economic, social, and environmental goals, it is difficult to create an adequate institutional framework that can effectively coordinate the broad range of SDG results. Coordinating the SDGs has been delegated to planning organizations in various South Asian

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

nations that are also in charge of developing national development strategies and plans. For instance, the coordinating role for the SDGs in Nepal is carried out by the National Planning Commission. The Gross National Happiness Commission oversees SDG cooperation in Bhutan.

The Pakistan Vision 2025, which is closely connected with the SDGs, was previously created in Pakistan by the Ministry of Planning, Development, and Reforms. A national SDG Monitoring and Coordination Unit is also being developed, and the National Assembly of Pakistan passed a resolution endorsing the SDGs in February 2016. 55. In Bangladesh, the Planning Commission is in charge of coordination and has matched the SDGs with both the Perspective Plan (2012–21) and the 7th Five-Year Plan (2016–2020). A unit to track SDG implementation, engage stakeholders, and select a Chief Coordinator of SDG Affairs has both been established by the Bangladeshi Prime Minister's Office.

The Planning Commission, which was superseded by the National Institution for Transforming India, was responsible for the policy coordination and execution in India for the accomplishment of the Millennium Development Goals. Although the major duty for implementation is with the state or provincial governments, the NITI Aayog has been charged with coordinating the accomplishment of the SDGs via certain ministries and significant government programs. In order to direct monitoring, data collecting, and the creation of national indicators, the Ministry of Statistics and Programed Implementation (MoSPI) collaborates with other ministries. The National SDG Platform was formed by Sri Lanka's Ministry of Sustainable Development and Wildlife to coordinate SDG implementation.

3.2.3 Concentrate on outcome based strategies.

One of the MDGs' basic flaws was that implementation was mostly handled at the ministry or department level for each sector, which favoured a silo-like approach rather than the necessary effective multi-sectorial and cross-cutting approach. For instance, improving child nutrition needs efforts on a number of fronts, including nutrition, water, health, and sanitation, as well as maternal education.

However, the efficacy of the interventions was constrained since they were predominantly handled by nodal ministries operating independently and cross-sector synergies were not fully recognized. A strategy centred on outcome-based delivery, which minimises trade-offs and takes

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

advantage of synergies, is necessary to achieve the SDGs. To do this, ministries may need to be reorganized to be results-based, or mechanisms may need to be created to support multi-sectoral approaches.

3.2.4 Consolidate decentralization

To fulfil the SDGs, local governments must operate efficiently, which may call for a significant commitment of power, capability, and resources. Since many nations in the subregion still lack local governments equipped to handle SDG implementation, immediate action is required. To do this, strong horizontal coordination must be established at the local level among the many local agencies entrusted with implementing the SDGs, as well as strong vertical coordination between local authorities and national governments. Institutional adjustments are also required to organise efficient stakeholder engagement at the local level.

3.2.5 Addressing capacity shortages and implementation methods

If South Asian nations are to carry out the 2030 Agenda, they will need assistance with the means of implementation. A few SDGs, including SDG 17, as well as the Addis Ababa Action Agenda (AAAA) on Financing for Development, include the modalities of implementation. 66. These include money, technology, building up one's ability, commerce, coherence in policy, data and monitoring, and multi-stakeholder alliances. Below is a list of South Asian nations' top objectives in this regard.

3.2.6 Finance

Significant financial resources will be needed for SDG implementation. According to UNESCAP projections, the cost of a package of social investments, including employment for everyone, income security for the elderly and those with disabilities, health, education, and energy for all, may account for up to 10% of India's GDP and up to 20% of Bangladesh's. 67) South Asian nations will need an estimated $2.5 trillion by 2020 and $4–5 trillion by 2030 to fill their infrastructure deficiencies. 69) A significant number of resources will also be needed for the adoption of initiatives to improve environmental sustainability. For instance, India estimates that it would cost US$2.5 trillion to execute its NDCs. Public-private partnerships (PPPs) and global development cooperation must be used in conjunction with domestic resource mobilisation to close these gaps.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

3.2.7Mobilization of domestic resources

When compared to the more industrialized nations in the area, the tax-to-GDP ratios of South Asian nations are much lower, ranging from 10 to 15 percent of GDP. For instance, the percentage is closer to 20% in China and Thailand (see Figure 10). By expanding the tax base, strengthening tax administration, and improving tax compliance, there is potential to increase domestic resources. By closing tax loopholes, especially via regional tax cooperation and novel taxes, this might be accomplished. Fewer than 1% of people in Bangladesh, Pakistan, and India pay income tax, with collection effectiveness between 29% and 40%. In Bangladesh, Pakistan, and India, less than 3% of people pay income tax. 70. According to UNESCAP estimates, the potential tax gap—that is, the difference between actual and prospective revenue varies by 17 to 72 percent across sub regional nations. Examples of innovative taxes in the sub region that are in line with SDG priorities include green tourism levies in Bhutan and the Maldives, as well as a number of cess (tax on taxes) levied in India, such as an education chess on income taxes that funds the campaign for universal education and a tax on fuels that supports sustainable transportation.

3.2.8 Using private funding collaborations for sustainable development

PPPs may be a crucial addition to public funding for sustainable infrastructure projects. For instance, India anticipates that PPPs will account for 48% of the $1 trillion in expected infrastructure spending over the Twelfth Five-Year Plan (2012–2017). Other South Asian nations have begun to create measures to promote the growth of PPPs as a result of their recognition of their significance. Examples of such policies include Bangladesh's 2010 PPP Policy and Strategy; Pakistan's 2010 PPP Policy; and Nepal's PPP policy, which is now being completed. When public commodities may be provided in controlled market structures, such as in telecommunications, electricity, or transportation infrastructure, PPPs are most effective in solving particular urban infrastructure demands. In addition, several nations are urging businesses to improve their corporate social responsibility (CSR) in order to augment governmental resources. A 2013 change to the Companies Act in India mandates that at least 2% of corporate earnings go toward CSR.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

3.2.9 Collaboration between regions and nations to finance sustainability

There is a lot of room for regional collaboration to help South Asia achieve its resource management and funding demands for growth. In particular, regional cooperation may be used to encourage the growth of capital markets and promote cooperation on tax-related issues. With regard to the former, cross-border listings and the growth of regional bond markets may make it easier for businesses from nations with underdeveloped capital markets to raise money in developed markets. In order to promote cooperation on tax issues such as base erosion, profit shifting, and transfer pricing, as well as information exchange at the Asia-Pacific dialogues on finance for development, UNESCAP has been sponsoring regional conversations on tax-related topics in the Asia-Pacific area. Additionally, there is room for the SAARC Development Fund, which has $420 million available to it, to grow and provide a fresh framework for regional collaboration in supporting sustainable development goals via its social and infrastructural windows. It could be changed into a South Asian Development Bank to enable it to raise money from the market and spur regional and international infrastructure investment while collaborating with other multilateral financial institutions, such as the Asian Infrastructure Investment Bank and the New Development Bank founded by the BRICS.

International development cooperation, in addition to regional collaboration, is important in helping South Asian nations achieve their financial requirements for growth. According to the 2030 Agenda, rich nations must provide official development aid (ODA) equal to 0.7 percent of their gross domestic product, with 0.2 percent going toward helping the world's least developed nations (LDCs). At COP21, wealthy nations reaffirmed their pledge to use the Green Climate Fund to raise an extra $100 billion a year by 2020 to help poor nations.

3.2.10 Addressing capacity shortages and implementation methods

South-South collaboration has been a significant addition to official development aid in recent years. It has grown in significance as a means of supporting development initiatives and creating new chances for developing nations and regions to exchange best practises. With its $1.26 billion commitment to development aid in 2014–15, India has emerged as a significant supporter of South–South cooperation. 80. Afghanistan, Bhutan, Nepal, the Maldives, and Bangladesh are

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

among the main countries Afghanistan's development cooperation efforts are targeted at in the South Asian area.

3.2.11 The use of technology to pursue low-carbon routes

The 2030 Agenda calls for a global technology facilitation framework, a technology bank for LDCs, and the distribution of ecologically sound technologies on advantageous terms for developing nations. South Asian nations will need access to eco-friendly energy generation and use technology in order to achieve their lofty NDC ambitions. The World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) may be revised in this regard to reinforce the article 66.2 technology transfer provisions, which have a tendency to be best-effort clauses.

A nation's capacity for science, technology, and innovation (STI), or national innovation system, which consists of institutional arrangements for the creation, dissemination, and adoption of technologies, typically determines its ability to absorb, assimilate, and benefit from domestic and foreign technology. In terms of STI indicators, South Asia behind other subregions (see Table 4). Compared to the global average of 2.1 percent and 2.6 percent in East Asia, South Asia spends just 0.7 percent of its GDP on research and development (R&D). All other STI metrics, such as per capita R&D spending, R&D personnel per million people, technology, revenues and payments, and registered patents, show that it trails behind. For stakeholders to create and implement tools and practices for sustainable development, countries in the subregion must concentrate and improve their STI policies. 82 They encounter several similar problems, thus combining efforts to create long-lasting solutions can be beneficial.

In order to increase crop production and land usage, for instance, a cooperative regional approach to agricultural and food-related R&D as well as the sharing of beneficial agricultural techniques, varieties, and germplasm should be used. Innovation in a variety of fields, including geographic information systems (GIS), seed production, animal husbandry, and disease control, should be stimulated via regional collaboration. Investing in R&D and skill development to promote structural transformation, particularly toward more resource-efficient industrial growth, should be prioritized by policies for transformational development at the same time.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

Ecological Concerns in Pakistan and India

4.1 Introduction

The subject of climate change is no longer confined to books or academic journals; it is a reality at our doorsteps. One example is the lengthier, scorching summers that bring South Asia's record-breaking heat. The worst of the weather is still to come, and nobody in the area is at all equipped to handle the difficulties. Although they may appear isolated, more frequent occurrences of extreme weather are signs of a significant change in South Asia's climate. Contrary to international issues like trade and security, climate warming cannot be stopped by traditional means or unilateral actions. Instead, coordinated collective action is the realistic path forward for long-term development to lessen the effects of climate change. When KPK (Khyber Pakhtuwn Khowa) province experienced 200 mm of rain in a single day in 2010, the exact same scenario occurred. Noshehra was literally submerged under 10 feet of rainwater. These uncommon occurrences force the conclusion that Pakistan's ecological system is badly flawed. With 6.9 percent of the world's emissions, India ranks third among countries that release carbon dioxide.

4.3 Flooding

Flooding, which wreaks havoc on Pakistan and India on an almost yearly basis, is by far the most dangerous natural hazard. Pakistan has seen 30 big floods in the past 65 years; the super flood in 2010 alone had a 20 million person impact. Every year, the monsoon amplifies brief, intense rainstorms in India, resulting in hundreds of deaths and millions of displaced people. Over a million people were forced to flee their homes in India this year alone due to monsoon-driven storms that claimed about 270 lives. As glaciers continue to melt at a quicker than usual rate due to the continuous rise in global temperatures, flooding risks will only increase. Glacial Lake Explosion Floods happen when a significant amount of water, typically in a glacial lake, is suddenly released. They frequently occur before flash floods, which are characterized by a huge torrent of water moving quickly downhill while destroying everything in its path.

Urbanization has increased more than anticipated recently in both Pakistan and India. But as more and more people move into the cities, deteriorating infrastructure and shoddy settlements are starting to appear more frequently

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

4.4 Water Stress

The Indus Basin is split evenly between Pakistan and India, with Pakistan accounting for nearly half of it. The Indus Waters Treaty (IWT) has been in effect since 1960. The IWT has endured despite current political squabbles and despite the fact that it does not sufficiently address climate change. But at the time it was enacted, many of the sobering truths that we are aware of today were not known. The Pakistan Council of Research on Water Resources claims that Pakistan officially crossed the water scarcity threshold in 2005. (PCRWR).In just six years, there will be a groundwater shortage, according to the PCRWR and the United Nations Development Program.

According to some estimates, Pakistan is the fourth-largest user of its groundwater and more than 70% of its drinking water demands and 50% of its irrigation needs are satisfied by groundwater extraction. Excessive pumping could cause water tables to drop by up to 20% by 2025. Pakistan's water stress is mostly caused by inadequate water resource management and inadequate water service delivery, including irrigation and drainage services. Additionally, the absence of accurate data on water, subsequent analysis, and inadequate planning and allocation as a result are leading to environmentally unsound ways of water withdrawal, which is resulting in an alarming decline in groundwater.

The rapid population expansion in India is mostly to blame for the country's severe water stress. Another factor preventing river water from being used for cultivation and consumption is a dearth of urban water treatment facilities. India's water stress is largely caused by over-extraction of groundwater, just like it is in Pakistan. According to estimates, 21 Indian cities, including Delhi, Chennai, and Hyderabad, will completely run out of groundwater by 2020.

According to a World Bank estimate, the agriculture industry employs more than 40% of the people in Pakistan and almost 50% of the people in India. It stands to reason that the negative effects of climate change on agriculture would jeopardize food security while also having a significant impact on the national economy. Demand for food will undoubtedly rise as a result of population growth in Pakistan and India, leading to an increasing gap between supply and demand.

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

4.5 Drought

This takes us to yet another problem associated with climate change: drought. In Pakistan, droughts are common and can sometimes affect up to one-third of the nation at once. Due to its dry climate, Baluchistan is particularly heavily hit. Despite the fact that there are structural solutions in place to cope with the effects of drought, issues including a lack of capacity, an inability to solve basin-scale water sharing issues, and inadequate decision-making only make the situation worse. According to reports, the Sindh and Baluchistan droughts that the Pakistan Meteorological Department announced earlier this year have affected over five million people. Over the past 25 years, droughts in India have led to the suicide of close to 300,000 farmers. Officials earlier this year said it was "worse than the famine of 1972." Millions of farmers are simply abandoning their fields and cattle in search of work in metropolitan regions due to a scarcity of water.

4.6 Agriculture

Historically, agriculture and cattle raising have dominated the South Asian continent. The idea of the steadfast elderly farmer who gives his life and soul to the land has, in fact, been glorified throughout history. However, weather patterns that are becoming more erratic have begun to interfere with agricultural efforts. Among the lowest in the world, Pakistan's agricultural productivity. The 2018–19 rabbis season saw a loss of roughly 1.5 million tons of wheat because to unfavorable weather. In India, an unusually severe monsoon spell resulted in the loss of thousands of tons of ripe wheat.

Effects of climate change on India and Pakistan

5.1 Introduction

The existence of human civilization has been threatened by climate change, which poses a serious threat to humanity in this century. In its most basic form, the phenomena of climate change is the outcome of atmospheric changes that lead to variations in the world's ecosylaxes and biospheres naturally via slow processes. Climate change is caused by both natural and human-caused factors. People produce methane, carbon dioxide, nitrous oxides, and other hazardous gases into the air via a range of residential, commercial, and industrial activities (IPCC 2014). The arguments around climate change have gained momentum in the last several

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

years. Politicians are debating these variances in climate change because of their potentially catastrophic implications. Because of its diverse geography, South Asia, and especially India, will be significantly influenced in the near future by climate change in terms of depiction, similarity, and interpretations. Because the nation is quickly exhausting its natural resources and ruining its environment, mostly as a consequence of urbanisation, industrialization, and economic expansion, climate change is predicted to have a substantial influence in this area. In an effort to preserve its quickly depleting natural resources, India is confronted with a serious environmental and socioeconomic issue. The air and water quality is declining daily due to the accumulation of various pollutants in the atmosphere.

Furthermore, the land's agricultural productivity, biodiversity, and coastal eco-systems would be most at risk from the consequences of climate change. Not only that, but the region is already susceptible to natural calamities such as the 2015 Chennai floods, the 2016 drought, and the 2013 landslides and floods in Uttarakhand. Furthermore, research suggests that a number of severe weather events, including heat waves, protracted dry spells, and strong rainstorms, are occurring more often and/or fiercely. Such disasters may have detrimental impacts, including starvation, increased susceptibility to sickness, loss of income, and loss of way of life. 15. According to World Bank projections, a 2 °C increase in the average world temperature over the next decades would only make India's monsoon season more unpredictable. It's anticipated that changes in India's weather patterns may submerge certain areas and leave others without even enough water to drink. Because rain-fed agriculture makes up more than 60% of India's farmland, it is particularly vulnerable to changes in the country's precipitation patterns. With a forecast rise in temperature of 2 to 2.5 degrees Celsius over pre-industrial levels, there might be a significant impact on the availability of food for 63 million people by the 2050s when there is expected to be less water available for agricultural output in the key rivers Indus, Ganges, and Brahmaputra.

5.2 Effects of climate change on Pakistan

Climate change is occurring quickly and has an adverse effect on Pakistan. Pakistan's geographic location puts it in a region where the effects of climate change are being severely felt. The main indicators of climate change in Pakistan are "disasters including floods, droughts, and other

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

natural calamities" This climate catastrophe has a significant influence on the economy, society, and environment. The devastating effects of the 2010 floods on the 20 million individuals who lost their homes, were injured, or went missing are shown through statistics. Similar to how another flood in 2012 devastated Pakistan . Climate change in Pakistan puts things like security, income, and shelter in danger (Aftab & Hickey, 2010).

The Pakistani government must act decisively to combat the harmful effects of climate change in light of the stark facts. Undoubtedly, this topic has caught the attention of the appropriate authorities, who also view it as a delicate and important matter (Rasul et al. 2011). Pakistan has taken a number of actions, including developing a climate strategy and action plans. The country of Pakistan implemented its first climate change strategy in 2012. In fact, the National Climate Change Policy's (NCCP) implementation was a significant development. More than 120 policy initiatives from the NCCP are suggested for various domains. Despite producing very little greenhouse gas emissions, Pakistan is one of the nations most impacted by climate change in the ways listed below. It is anticipated that as the Himalayan glaciers continue to melt, Pakistan may see more frequent flooding. According to predictions, there would be less fresh water available for life's necessities, putting people's lives in danger and leading to dire conditions for the population. Communities along Pakistan's southern Arabian Sea border are most at risk due to the increased likelihood of flooding brought on by climate change. Agriculture has a significant role in Pakistan's economy (Banoori, 2012).

The yield of the crops is at risk due to the challenges posed by climate change, which has a direct impact on the population's way of life and leads to many other social issues, including poverty and urbanization. According to projections, diseases like cholera are on the rise in Pakistan's coastal regions as a result of climatic issues. Due to resource depletion and economic harm, climate change is also worsening social inequality in Pakistan. Economic disparities, population migration, and tense situations will worsen. (LEAD, undated)

As was previously mentioned, devastating flooding in Pakistan has caused a significant loss of life and economic output. People had to flee their homes to protect their lives. This natural disaster caused their homes to be devastated. We have now moved into a new phase. Global temperatures have increased dramatically in almost all nations. As Pakistan experienced

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

extreme cold, the prime minister instructed the relevant agencies to give homeless people temporary shelter. The first shelter houses in Pakistani history were built. A new year has begun since then. It is hoped that the international community, particularly Pakistan, will act seriously and urgently to address this issue.With the way the world's climate is changing, there is a significant potential that Pakistan may experience catastrophic effects such as floods, famine, hurricanes, erosion of the coastlines, and decreased agricultural growth. Pakistan is ranked seventh globally in the Global Climate Risk Index of 2017, with recoded damages from climate change totaling US $3.8 billion (PPP) between 1996 and 2015. (UNDP, 2018).

5.3 Outcomes on Pakistan Economy

Agriculture is the foundation of Pakistan's economy, these unexpected changes in the global environment represent a significant threat to Pakistan's agricultural sector. Global reports place the country as the 12th most seriously threatened country as a result of these erratic weather variations. The country's water resources, forests, and agriculture, which are primarily what the country depends on for its livelihood and economy, are very vulnerable to the different degrees of temperature rise and alterations in precipitation. In particular, it is anticipated that the rapid rise in temperature will affect the bio-physical relationships among fisheries, cattle, crops, and forests by shortening their development seasons, changing species patterns, altering water requirements, and amplifying pests and diseases. The consequences of climate change on the agriculture industry and natural resources would vary due to different agro-ecological regions. The western mountainous region is dry by nature, and the sudden rise in temperature could hasten this process, which would have a huge influence on the water. resources that are extensively used in the production of energy and agriculture. These western hilly regions are currently under severe threat from many natural and human activities, which is why ecological damage in these places is ongoing (Ullah, 2017).

For a nation to improve food protection, living standards, and rapid economic advancement, its agriculture sector must be functioning correctly. According to statistics from developing nations, agriculture production accounts for a significant portion of their GDP (GDP). Therefore, without increasing agricultural output, economic advancement is inevitable. Arable land serves as Pakistan's primary natural resource, and the agriculture sector contributes 21% of the

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

country's GDP, according to the Economic Survey of Pakistan (2011–12). In addition to that, the country's agriculture industry employs 45 percent of the labour force, and its overall profit margin is 18 percent from exports. Examining the impact of environmental change is now essential. It is now necessary to investigate the effects of environmental change on major crops in Pakistan, given the importance of agriculture to the country's economy and how temperature and precipitation are affecting them. (Siddiqui et al, 2012).

Growing agriculture poses a direct danger to Pakistan's industrial sector, which in turn will have a detrimental impact on the economy of the nation Climate change will undoubtedly have an impact on our ability to produce food and energy sustainably. It has direct and indirect effects on energy and food security by posing a serious threat to food manufacturing and final product quality. Then, as a result of natural disasters brought on by these abrupt environmental changes, the world's natural food and energy supplies are continuously running out. Unfortunately, floods have caused significant economic damage to Pakistan's infrastructure and agricultural industry over the years (Zafar, 2015).

In particular, the 2010 flooding cost US$ 9.6 billion in damage, and five further floods since 2010 have cost the economy more than US$25 billion. Public infrastructure, health, irrigation, agriculture, and education infrastructure were the sectors that suffered direct losses. The production of cotton, which is crucial to Pakistan's economy because the majority of the nation's businesses are connected to it, has suffered greatly as a result of the current scenario. Extreme environmental challenges, urbanization, and population growth are all contributing to security concerns. The United Nations has already forecast that the world's population would likely expand from its present level of 7.2 billion people to 8.1 billion people by the year 2025. Like other countries, Pakistan is experiencing massive population growth as well as adverse effects from the country's climatic circumstances on its economy. Furthermore, it has been noted that persistent heat wave patterns and a sharp increase in temperature are having a significant negative impact on food production and the sustainability of energy, which has caused an extraordinary increase in electricity consumption relative to production capacity due to warm weather, ultimately leading to an increase in prices due to excess utilisation relative to production. Thus, it is abundantly obvious that the worldwide change in climate patterns is

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

closely related to socioeconomic issues, and both regional and national plans that are sustainable and long-term are needed for rapid economic growth (Zahra &Batool, 2016).

5.4 Guidelines for National Level Policies

To Pakistan's credit, they have demonstrated support for all international climate change initiatives; an appropriate illustration of this is their adoption of all SAARC (South Asian Association for Regional Cooperation) climate change statements, including the 2010 Rural Municipal Declaration. The national climate change policy is widely believed to have been influenced by Pakistan's 2010 floods, which were the worst floods the nation has ever experienced.. Pakistan is actively pursuing funding from international sources, primarily the United Nations, for this purpose (UN). This viewpoint is illustrated by the statement made by Pakistan's Foreign Minister at the UN General Assembly in September 2010: "Climate change, with all its severity and unpredictability, has become a reality for 170 million Pakistanis." "The present situation in Pakistan reconfirms our extreme vulnerability to the adverse impacts of climate change." Most importantly, Pakistan is lobbying to emphasize this expression "particularly vulnerable developing countries" in UN agreements that are to be signed in the future (Khan, 2010).

With support from UNDP, the Pakistani government launched a US$37 million project in 2018 for the people who were most negatively impacted by climate change. The Green Climate Fund (GCF) is a five-year project for Gilgit- Baltistan and KPK's most vulnerable communities. This project's mission is to support Pakistan in meeting its 2030 targets for eradicating hunger and poverty and other sustainable development goals. Pakistani women make up more than half of the project's beneficiaries, which will help the nation's attempts to address gender inequity. (UNDP, 2018).

5.5 Climate Change after the Corona Pandemic

The coronavirus, which first appeared on the planet in late 2019, beginning in Wuhan, triggered a national and international emergency. The epidemic caused serious harm to both the domestic and global economies. Environmental scientists have observed some positive effects of it on the environment in addition to its negative effects because of the restrictions on activity. The issue of climate change in the post-corona virus world was brought up by Fred Pearce in his article

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

"After the Corona Virus, Two Sharply Divergent Paths on Climate." 2020 (Pearce). In this sense, two opposing viewpoints the optimistic and pessimistic views are gaining traction.

Some academics are optimistic that, following the coronavirus, it will be simple for policymakers and environmentalists to address environmental concerns because, as a result of the global climate change lockdown during the pandemic, a recovery has been shown. Bill Gates shares this upbeat perspective, predicting that the world would be ready to accept responsibility for climate change after the coronavirus in order to prevent further deadly circumstances. According to Glen Peters, the research director at the Center for International Climate and Environment Research, CONVID-19 and carbon dioxide emissions are closely related. He added that the unexpected decrease in CO2 emissions was brought on by the global shutdown brought on by CONVID-19. This drop in CO2 emissions was not even noted during the 2008 financial and economic crisis (Peters, 2020).

The pessimistic viewpoint, on the other hand, is also significant because it has historically held true. As the virus has caused an economic catastrophe worldwide, nations will be more concerned with stabilizing their economies in the post-corona age than with protecting future generations from a climate emergency. The desire of nations in the future to preserve their economies will set aside the climate issue, which has had an adverse impact on the earth for years. After CONVID-19, critics anticipate a leap backward rather than an advance. Governments will reportedly make frantic attempts to stabilize their economies, and for this reason, the use of ancient, energy-intensive industries and fossil fuels for industrial purposes will gain momentum. These actions will counteract the negative view of climate challenges and CO2 emissions in this way. 2020 (Pearce).

The pandemic caused a serious setback to Pakistan's economy, which was already under strain under the Imran Khan government. The initial assessment study made public by Islamabad estimated the CONVID-19-related economic loss at a staggering 2.5 trillion (Haider, 2020).

When considering the effects of climate change on Pakistan, it is already evident that Pakistan's contribution to carbon dioxide emissions is negligible despite Pakistan experiencing enormous effects of climate change in the form of floods, heat waves, droughts, and the melting of glaciers, among other things. Applying Fred Pearce's two perspectives on the globe following the Corona

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

virus, it is obvious that Pakistan has the greatest likelihood of being included in the gloomy perspective. Imran Khan stated in a speech at the UN Climate Action Summit in 2019 that Pakistan is considering greenhouse gas emission reduction as a means of addressing the issues brought on by climate change.

However, following the Corona virus, Pakistan will attempt to restore its faltering economy, which increases the likelihood that climate change will be given a lower priority, which in the opinion of pessimists is a green light for climate issues. In addition, when the globe desperately begins to industrialize using energy-intensive fossil fuels after the coronavirus in an effort to salvage their economies, Pakistan will be among the most vulnerable nations to climate threats.

5.6 Strategies to cope with climate change

Climate change is a severe problem in the modern era. It is crucial to connect with the public and raise awareness of its dangers. Climate change is not given enough attention by people. The general public should be made aware by media tactics that taking no action carries risk. The general public, farmers, fishermen, vulnerable communities, young people, people with disabilities, school-age children, policymakers, opinion leaders, researchers, civil servants, and the business community are among the target audiences for this endeavor. Reading materials, advertising materials, phone calls, SMS, in-person conversations, online, audiovisuals, documentaries, talk shows, music, and the curriculum are all examples of communication methods that can be used for this purpose (ESPACE, n.d.). Fossil fuel use should be minimized because it is one of the main causes of environmental deterioration. Alternative energy sources, including wind, bio, hydro, and solar energy, should be utilized in its place. Renewable energy sources are the best solution to climate change. (Shahzad, 2015).

The issue's core is good governance, and any potential solutions can only be implemented if the government frames and designs effective decision-making that can be implemented. Priorities should guide the development of policies for adaptation and mitigation, which should then be carried out strictly. Dam building is necessary to evaluate and address Pakistan's growing water crisis, as is taking steps to lengthen the useful lives of current storage facilities. (GOP, 2012).

After CONVID-19, it is crucial for people to alter their lifestyles since sudden automobile use and high-speed economic activity can put the planet at risk of yet another catastrophe in the

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

shape of a climate explosion. Governments must use renewable energy sources for this purpose if they want to stabilized their economies after being affected by the coronavirus. At the national and international levels, a reasonable and cooperative attitude should be used.

5.7 The effects of climate change on India

5.7.1 Uttarakhand Disaster 2013

One of the greatest disasters in recent memory struck the state of Uttarakhand on June 16, 2013, causing significant harm and loss to both lives and property. Flash floods and extremely heavy rainfall struck the state. The state's whole district system was impacted. The state's Baleshwar, Chamoli, Pithoragarh, Rudraprayag, and Uttarkashi districts were the five hardest affected. Due to the accident occurring during the busiest travel and pilgrimage season, there were more fatalities, and rescue and relief efforts took longer to complete. The Rudraprayag district's Mandakini valley, where the tragedy was most severe, was the area most affected. Flooding at the Kedarnath Shrine and the surrounding areas was caused by torrential rain. Other pilgrimage sites in the state that draw a large number of visitors during the summer, such as Gangotri, Yamunotri, and Badrinath, were also impacted. For days, many were left stranded and forced to seek refuge in the mountains.

Due to ruined roads, landslides, and debris from flash floods, more than one lakh people were stranded in several areas. According to the State Government's official statistics from May 9, 2014, 169 people perished overall, and 4021 other people were either reported missing or assumed dead. Be aware that the 2013 Uttarakhand floods were primarily caused by human-induced climate change, according to research released by the American Meteorological Society. Even though the report did not state explicitly that climate change is to blame for the flooding, it did make a strong case for it. The research claims that the excessive rainfall that was recorded in June 2013 was a century-scale event and that climate change is to blame for the increased frequency of such extreme events based on statistical analysis.

5.7.2 Chennai Floods in 2015

Over 4 million people were affected by repeated torrential rainstorms that occurred in Chennai throughout November and December 2015, flooding the coastal districts of Kancheepuram and Tiruvallur and causing $3 billion in economic damage. The Deputy Director General of the

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

Delhi-based Center for Science and Environment claims that the Chennai floods were a direct result of the rising global temperature, which broke a record that had stood for 100 years and caused one day's rainfall to equal a month's typical rainfall.

5.7.3 Drought season 2016

In 2016, India went through one of its driest two-year periods, which had an impact on practically the whole nation. May saw temperatures in the state of Rajasthan rise over 51 degrees Celsius. According to the national drought assessment, the country has a moisture deficit of at least 50% from years past. Additionally, according to the Central Water Commission, the water level in India's 91 reservoirs was at its lowest point in a decade and barely represented 17 percent of their overall storage capacity in May. Maharashtra was the area of the country most severely impacted by the severe drought. This area has seen an ongoing water shortage, increased debt, and a rise in farmer suicides during the last five years. The area's predominantly rain-fed agriculture has been impacted by erratic climate trends. The lack of or limited supply of water in dams, the lack of cattle feed, the lack of cash to launch related enterprises, and unemployment are some of the major issues the people in this region confront. Maharashtra's agriculture has recently been impacted by harsh weather conditions like hailstorms, heat waves, frost, and irregular rains. In addition, the 2013 heat wave in India reduced wheat production by roughly four million tones. The farmers in Maharashtra suffered a tremendous loss as a result of a rise in temperature of just one degree during the blooming stage of the same year.

5.7.4 The most affected areas

When there is a natural disaster or man-made disaster, whether it be flooding brought on by illegal construction, as in the case of Uttarakhand, or rains, as in Chennai, where inadequate arrangements were made for the water to flow out of the city, or the recent drought, which saw an increase in deaths, the poor, the weak, and the underprivileged will bear the brunt of it. The aforementioned incidents from the recent past all showed the same thing. The disadvantaged have frequently been the victims of disasters that were caused by the wealthy and powerful segments of society. They seldom have any means of contacting the legal system and requesting justice. There would be anarchy and people would commit suicide out of desperation, like the farmers in Maharashtra who died from the drought, in those situations where the state fails and

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

the judiciary remains silent on urgent matters of fundamental importance like climate change. Large business houses that contribute significantly to air and water pollution get away with simple "corporate social liability" agreements. The laws are not strict enough to hold offenders accountable. There won't be any legal action against the government for neglect of duty. Cases that do succeed in making it to the Apex Court through public interest litigation only manage to make a little difference in preventing future crises. India has faced a variety of problems as a result of climate change year after year, but we have not learned from our previous mistakes.

5.8 Conclusion

Even though they produce fewer greenhouse gases than wealthy countries, developing countries like Pakistan are nonetheless severely impacted by the dangers of climate change. The coronavirus will make things worse because, in the years following the outbreak, the pandemic's economic costs will take precedence over climate change. Due to the high industrial activity following the coronavirus, recovery brought on by the global shutdown will once more receive the green signal of climate change. Pakistan's economy is heavily based on agriculture, so there will be resistance to the problems posed by climate change in that country. Due to the high industrial activity following the coronavirus, recovery brought on by the global shutdown will once more receive the green signal of climate change. Pakistan's economy is heavily based on agriculture, so it won't be vulnerable to the problems of climate change. If the aforementioned suggestions are followed to the letter and in their entirety, the consequences of climate change in Pakistan can be lessened. To deal with the challenge of climate change, adaptation and mitigation policies as well as effective governance would be beneficial. Imran Khan, the prime minister of Pakistan, unveiled a five-year plan in 2018. A significant tree-planting initiative was initiated as part of this plan to counteract rising temperatures, floods, and other climate-related catastrophes. This is a well-planned programed that needs to be implemented in schools, colleges, universities or public and private sector.

Reference

Sustainable development goals. (n.d.). World Health Organisation. Retrieved March 29, 2022, from https://www.who.int/health-topics

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

The relevance of the sustainable development goals (SDGs) for companies. (2021, January 12). Seventeen Goals Magazin. Retrieved March 29, 2022, from https://www.17goalsmagazin.de/en

Ahsan, A. (2019, September 16). Pakisan and india face common threats climate change is biggest one. Dawn. Retrieved January 7, 2022, from https://www.dawn.com/news/1505534/pakistan-and-india-face-common-threats-climate-change-is-the-biggest-one

Zaidi, S. A. H., Mirza, F. M., Hou, F., & Ashraf, R. U. (2019). Addressing the sustainable development through sustainable procurement: What factors resist the implementation of sustainable procurement in Pakistan? Socio-Economic Planning Sciences, 68, 100671. https://doi.org/10.1016/j.seps.2018.11.008

P.K.G. (2012). Climate Change and Conflict in South Asia. Strategic Analysis, 1(2012). https://www.researchgate.net/publication/273031393

Dr. Mubeen Adnan, F. S. (2021). Climate Change: Impacts on Pakistan and Proposed Solutions. Pakistan Social Sciences Review, 5(15May), 229–232

Field, C. B., Barros, V., Stocker, T., Qin, D., Dokken, D., Ebi, K.,&Tignor, M. (2012).PCC, 2012: Managing the risks of extreme events and disasters to advance climate change adaptation. A special report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, 30(11), 7575-7613.

United nations. (2015, November 7). SDG 13: Climate Action. United Nations in India. Retrieved July 27, 2022, from https://in.one.un.org/page/sustainable-development-goals/combat-climate-change-sdg-13/

S.T. (2020). India, Pakistan, and the Coming Climate-Induced Scramble for Water. Salzburg Global Seminar, oct15, 3–9. https://www.salzburgglobal.org/news/opinions/article/india-pakistan-and-the-coming-climate-induced-scramble-for-water

S.T. (2021). Can the Climate Crisis Bring India and Pakistan Together? Salzburg Global Seminar, jan13. https://www.salzburgglobal.org/news/opinions/article/can-the-climate-crisis-bring-india-and-pakistan-together

B.O. (2021a). Climate Change Litigation: Global Perspectives (1st ed., Vol. 5) [E-book]. Brill | Nijhoff. https://doi.org/10.1163/9789004447615_006

(Online) ISSN 2709-7633 (Print) |ISSN 2709-7641
Publishers: Nobel Institute for New Generation
http://shnakhat.com/index.php/shnakhat/index

UN. (2012, March 9). United Nations. Retrieved July 27, 2022, from https://www.un.org/en/climatechange/what-is-climate-change

Pearce, F. (2020). After the Coronavirus, Two Sharply Divergent Paths on Climate" Yale school of forestry and environmental studies. https://e360.yale.edu/features/afterthe-coronavirus-two-sharply-divergent-paths-on-climate

Peters,G. (2020). How changes brought on by coronavirus could help tackle climate change. https://theconversation.com/how-changes-brought-on-by-coronavirus-could- help-tackle-climate-change-133509. Rasul, G. Chaudry, Q. Mahmood, A. Hyder, K. & Dahe, Q. (2011). Glaciers andglacial lakes under changing climate in Pakistan. Pak J Meteorol, 8(15):1–11

Siddiqui, R., Samad, G., Nasir, M., &Jalil, H. H. (2012). The impact of climate change on major agricultural crops: evidence from Punjab, Pakistan. The Pakistan Development Review, 261-274.