Climate Emergency Pakistan

written by Ms Zarka Khan | July 30, 2024

Climate refers to the long-term patterns and averages of meteorological conditions in a particular region. It includes temperature, humidity, precipitation, wind, and seasons over periods ranging from decades to millions of years. In Pakistan, over the past 2 decades we have witnessed an increasing number of natural disasters repeating themselves. These disasters include earthquakes, floods, heat waves, landslides and droughts. Each province is affected differently by the these natural disasters, impacting the livelihoods of the population inhibiting the regions. Not only are human lives at risk, but the economic stagnation in these areas persists for years after the disaster.

The question that arises here is, does Pakistan face a Climate emergency?

Yes as defined by this definition, "A climate emergency refers to the urgent and severe threat posed by climate change, requiring immediate and significant action to mitigate its impacts and adapt to its effects. It requires the critical need for rapid changes in policies, behaviors, and technologies to prevent catastrophic consequences for the environment, human societies, and economies".

To support the above definition, if we define it in Pakistan's context, Pakistan does face a climate emergency. The climate emergency appeal can be supported by the following justification;
Extreme Weather Events

Pakistan has experienced a rise in the frequency and intensity of extreme weather events, such as heatwaves, floods, and droughts. For example, the devastating floods of 2010 and 2022 displaced millions and caused extensive damage. One-third of the population has been displaced from their homes, and the efforts to safely evacuate water from villages have been inadequate. These internally displaced people (IDPs) have found homes and shelters in other cities, as their own lands remain flooded. These areas have become uninhabitable due to the proliferation of waterborne diseases, algae, stagnant water, and

contamination, along with the destruction of infrastructure and the depletion of essential resources.

Glacial Melt

The Himalayas and the Karakoram range in Pakistan are home to some of the largest glaciers outside the polar regions. These glaciers are melting at an accelerated rate due to rising temperatures, leading to glacial lake outburst floods (GLOFs) and impacting water availability. Not only can this causes floods, but In the northern regions of Pakistan, glacial melt is severely endangering various wildlife species, including the iconic snow leopard, Himalayan brown bear, and Marco Polo sheep. These species rely on the unique high-altitude ecosystems sustained by glaciers for their habitat and food sources. The melting glaciers lead to habitat loss, reduced prey availability, and disrupted water sources, increasing the already sensitive existence of these animals.

Water Scarcity

Climate change is severely affecting water scarcity in Pakistan. Changes in rainfall patterns and the melting of glaciers are affecting the flow of the Indus River, which is crucial for the country's agriculture and water supply. The aftermath of this can be seen in the water scarcity issues faced by metropolitan cities such as Lahore, Karachi and Islamabad, where citizens are now relying on the purchase of water tankers worth Rs. 4000. If you do not have ground water supply, you have to wait for the government's water supply for up to 3-4 days. Many incidents have been reported where government supply was halted for upto 10 days in some sectors on the Capital, causing citizens to relocate.

Agricultural Impact

Agriculture, which employs a large portion of Pakistan's population, is highly vulnerable to climate change. Changes in temperature and rainfall patterns, along with increased pest outbreaks and soil degradation, are affecting crop yields and food security. Wheat, a staple crop in Pakistan, has experienced yield reductions of up to 15-20% in some regions due to increasing temperatures and unconventional rainfall

patterns. Rice, another critical crop, is similarly affected by these climatic changes. The agricultural sector, contributing around 19% to Pakistan's GDP and employing about 42% of the labor force, faces significant economic losses due to climate change. Annual losses are estimated to be around $3.8 billion, primarily due to reduced crop yields and extreme weather events.

Urban Vulnerability

Rapid urbanization and inadequate infrastructure further complicate these challenges. When major private housing schemes cut down the forests in order to build urban housing societies, not only are they disturbing the quality of land but they release toxic waste which is harmful to the ecosystem and the water supply of the territory. These housing societies, under the umbrella of business are creating a problem for Pakistan's government, because if a natural disasters strikes or if a disease spreads, the government will have to compensate for the loss of life, not these housing societies.

Health Issues

Climate change is contributing to a rise in health problems, including heat-related illnesses, respiratory issues from poor air quality, and the spread of vector-borne diseases. Lahore has one of the worst air qualities in the world, causing respiratory diseases among the inhabitants. According to a study, One day spent in Lahore is equal to smoking 30 cigarettes in a day. Increased temperatures and altered rainfall patterns contribute to the proliferation of waterborne diseases such as cholera and dysentery, which disproportionately affect children due to their weaker immune systems. Additionally, extreme weather events, such as floods, lead to the displacement of families, resulting in overcrowded and unsanitary living conditions that further spread infectious diseases like respiratory infections and skin diseases. Malnutrition is another critical issue, as climate change impacts agricultural productivity, leading to food shortages that primarily affect pregnant women and children, increasing the risk of stunted growth and maternal health complications.

Economic Losses

The economic impact of climate change is substantial, affecting various sectors such as agriculture, fisheries, and infrastructure. Natural disasters and changing climate conditions lead to significant financial losses and hinder economic development.

Pakistan has developed a National Climate Change Policy aimed at addressing and mitigating the impacts of climate change, focusing on adaptation, disaster risk reduction, and sustainable development. The National Disaster Management Authority (NDMA) coordinates disaster response and implements disaster risk reduction strategies, playing a crucial role in managing climate-related disasters. Initiatives like the Billion Tree Tsunami, launched in Khyber Pakhtunkhwa and expanded nationwide, aim to combat deforestation, restore ecosystems, and enhance carbon sequestration. Additionally, Pakistan is investing in renewable energy sources such as solar, wind, and hydropower to reduce its reliance on fossil fuels and lower greenhouse gas emissions. At the community level, local adaptation strategies involve changing agricultural practices, improving water management, and building resilient infrastructure. Numerous NGOs and civil society groups are actively working on climate change awareness, education, and community-based adaptation projects. However, these efforts are not enough. If not now, when will we take the comprehensive, immediate action necessary to protect our future and mitigate the severe impacts of climate change?

Downfall Of The Apple Car

written by Ms Zarka Khan | July 30, 2024

Apple's exploration into the realm of automotive technology began around 2014. The project, known as "Project Titan," initially aimed at developing an electric vehicle. However, over the years, the focus has shifted multiple times, including considerations for autonomous driving technology. While Apple has been quite secretive about its developments, there were reports of hiring automotive engineers and testing vehicles on public roads. The technological world's response to Apple's rumored entry into the automotive industry was a mixture of excitement, curiosity, and speculation. Apple's reputation for innovation and design excellence, coupled with its massive consumer base, meant that any move into the automotive sector was bound to attract significant attention. Many industry analysts and enthusiasts speculated on what an "Apple Car" might entail, considering potential features such as advanced autonomous driving capabilities, seamless integration with other Apple devices and services, and a focus on user experience and design. Competitors in the automotive and tech sectors closely monitored Apple's moves, recognizing the potential disruption such a product could bring to the market. However, there were also skeptics who questioned whether Apple could successfully navigate the challenges of the automotive industry, which include manufacturing, regulation, and competition from established automakers and tech companies like tesla and ford already working on electric and autonomous vehicles.

Apple's Project Titan underwent significant development, including the testing of autonomous vehicle technology and the exploration of partnerships with established automotive manufacturers. Apple likely made advancements in autonomous vehicle technology, including sensor technology, machine learning algorithms, and software systems for navigation and decision-making. Given the global push towards electric vehicles (EVs), Apple may have developed breakthroughs in battery technology, energy management systems, and charging infrastructure. Improvements in these areas would be crucial for

enhancing the performance, range, and sustainability of electric vehicles. Apple is renowned for its focus on user experience and seamless integration across its products and services. Breakthroughs in Project Titan may have involved developing innovative interfaces, connectivity features, and in-car entertainment systems that provide a unique and cohesive user experience for drivers and passengers. Building a car requires intricate coordination of manufacturing processes, supply chain management, and quality control. Apple may have achieved breakthroughs in optimizing manufacturing efficiency, reducing costs, and ensuring product quality through innovative production techniques and partnerships with manufacturers and suppliers. Ensuring the safety and security of autonomous vehicles is paramount. Breakthroughs in Project Titan may have involved developing advanced safety systems, cybersecurity measures, and fail-safe mechanisms to mitigate risks and ensure the reliability and trustworthiness of autonomous driving technology.

However, Apple's Project Titan faced several controversies and challenges throughout its development: Project Titan experienced multiple leadership changes, including the departure of key executives and engineers. These changes raised questions about the project's direction and contributed to speculation about internal challenges within Apple's automotive division. Apple faced lawsuits related to Project Titan, including accusations of poaching employees from rival companies and stealing trade secrets. These legal disputes underscored the competitive nature of the autonomous vehicle industry and the potential for conflicts between tech giants and established automakers. There have been reports of accidents involving vehicles used for testing autonomous technology, including incidents where Apple's test vehicles were

rear-ended by other vehicles. While these incidents did not result in serious injuries, they raised concerns about the safety and reliability of autonomous driving technology. As with other tech companies involved in autonomous vehicles, Apple faced scrutiny over privacy and data security concerns. The collection and use of data from sensors and cameras in autonomous vehicles raised questions about consumer privacy and the potential for misuse or unauthorized access to sensitive information. The secretive nature of Project Titan and Apple's reluctance to provide details about its plans led to speculation and uncertainty about the project's status and timeline. Delays in development and shifting priorities fueled speculation about whether Apple will ultimately release a consumer vehicle or focus solely on autonomous driving software. Apple officially cancelled Project Titan in February 2024 after 10 years of development [techcrunch.com].

The cancellation of Apple's car project, Titan, has several potential implications for the tech world:

For Apple:

• **Strategic shift:** It signals Apple's focus on areas with a clearer path to success, potentially reallocating resources to AI development, a field they see as more promising.
• **Innovation perception:** Some may view it as a dent in Apple's reputation for groundbreaking innovation, having invested heavily with no tangible product.

For the EV industry:

• **Reassessment by competitors:** Other companies developing electric vehicles might re-evaluate their strategies based on Apple's exit, potentially impacting the market landscape.
• **Focus on existing players:** It might solidify the position of established EV manufacturers like Tesla.

For autonomous vehicle development:

• **Uncertainty about Apple's future involvement:** While the project is shelved, it's unclear if Apple will completely abandon the self-driving car concept.
• **Continued development elsewhere:** Other companies and research institutions will likely continue pushing the boundaries of autonomous driving technology.

Overall impact:

• **Focus on near-term solutions:** The cancellation might indicate a shift towards more commercially viable driver-assistance features in the near future, rather than fully autonomous vehicles.
• **Importance of AI:** Apple's focus on AI suggests they see it playing a crucial role in future transportation advancements.

Warmest January Day on Record in Europe (2023)

written by Ms Zarka Khan | July 30, 2024
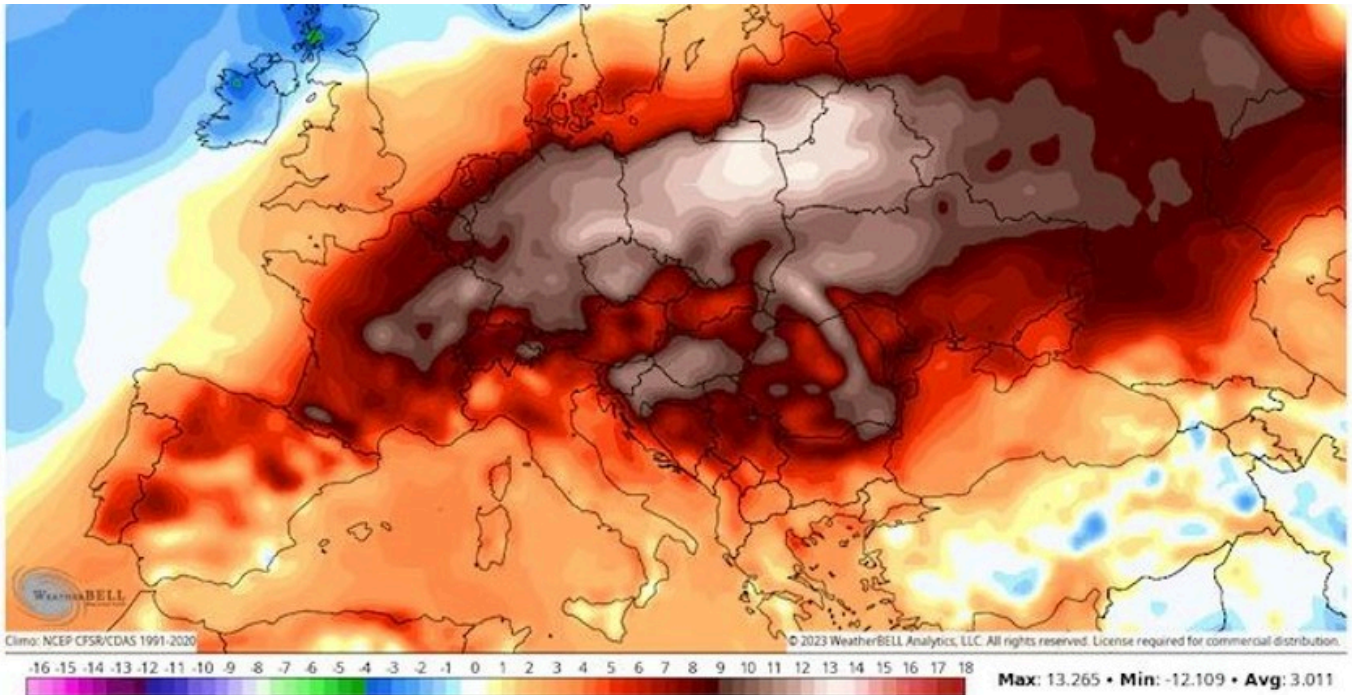
In January 2023, Europe experienced its third warmest January on record, a stark indicator of climate change's impact on the continent. This unusual warmth shattered temperature records across Europe, significantly affecting winter tourism and outdoor activities, notably forcing the closure of many ski resorts due to insufficient snow cover. Countries such as Italy and Spain saw temperatures soar above 25°C (77°F), with at least eight countries reporting their warmest January day on record. The warmth was not isolated to Southern Europe; even Central Europe experienced record-breaking temperatures, with Poland and the Czech Republic reaching up to 19°C (66°F).

The World Meteorological Organization (WMO) explained this phenomenon as the result of a high-pressure zone over the Mediterranean clashing with an Atlantic low-pressure system, drawing warm air from Northwestern Africa across Europe. Moreover, sea surface temperatures in the eastern North Atlantic were 1°C to 2°C higher than average, contributing to the unusual warmth. This event exemplifies the direct consequences of climate change, with experts warning that extreme weather events will become more frequent and severe.

Furthermore, the warmth affected winter sports, with the ski World Cup in Adelboden, Switzerland, announcing reliance on artificial snow. Dr. Friederike Otto, a climate scientist, emphasized that the record-breaking heat was made more likely by human-caused climate change, underscoring the urgent need for climate action. The unfolding climate crisis represents a significant challenge for traditional winter sports and raises concerns about the long-term sustainability of ski resorts and the broader environmental impact of artificial snow production.

Volcanic Eruption of Mount Merapi

written by Ms Zarka Khan | July 30, 2024

Mount Merapi, located on the border of Yogyakarta and Central Java, Indonesia, is one of the most active and dangerous volcanoes in the world. Its name, translating to "Mountain of Fire," is a fitting description of its relentless activity. The 2010 eruption of Mount Merapi is particularly notable for its severity and impact.

In late October 2010, Mount Merapi began an eruptive phase that would become its largest in over a century. The eruption was characterized by explosive events and pyroclastic flows—fast-moving hot gases and volcanic material that swept down the slopes at speeds exceeding 100 kilometers per hour. These flows devastated villages, farmlands, and forests in their path, leading to a significant humanitarian crisis.

The immediate response involved the evacuation of over 350,000 people from the surrounding areas, a massive operation given the densely populated regions around the volcano. Despite these efforts, the eruption resulted in over 350 fatalities, with many more injured or suffering from respiratory issues due to the ash. Thousands of homes were destroyed, and the region's agriculture, a vital source of livelihood for many, was severely impacted.

The 2010 Merapi eruption served as a stark reminder of the power of nature and the importance of disaster preparedness and response. It highlighted the challenges of living in close proximity to a highly active volcano and the need for ongoing research, monitoring, and community education to mitigate future risks.

Floods in Beijing, China (2023)

written by Ms Zarka Khan | July 30, 2024

In July 2023, Beijing, China, witnessed one of its most severe flood disasters in over a century, following the torrential rains unleashed by the remnants of Typhoon Doksuri. This natural calamity marked an unprecedented challenge for the capital, reporting the heaviest rainfall the city had seen in 140 years, with a staggering 744.8mm recorded over several days. The devastating impact of the floods was profound, leading to significant casualties and extensive damage.

The death toll from this catastrophe rose to 33, including five rescuers, while 18 individuals were reported missing. The relentless downpours caused widespread destruction, collapsing nearly 59,000 homes and damaging 150,000 more. Infrastructure was severely affected, with roads and over 100 bridges damaged, exacerbating the crisis and hampering rescue efforts. Moreover, the floods inundated more than 15,000 hectares of cropland, further straining the city's resources and affecting its food supply.

FILE PHOTO: A man operates a front loader to evacuate people through a flooded road after the rains and floods brought by remnants of Typhoon Doksuri, in Zhuozhou, Hebei province, China August 3, 2023. REUTERS/Tingshu Wang/File Photo

The 2023 Beijing floods served as a grim reminder of the escalating threat posed by extreme weather events, underscoring the urgent need for enhanced disaster preparedness and resilient infrastructure. As climate patterns continue to evolve, the event highlighted the critical importance of adopting comprehensive measures to mitigate the impact of such disasters in the future.
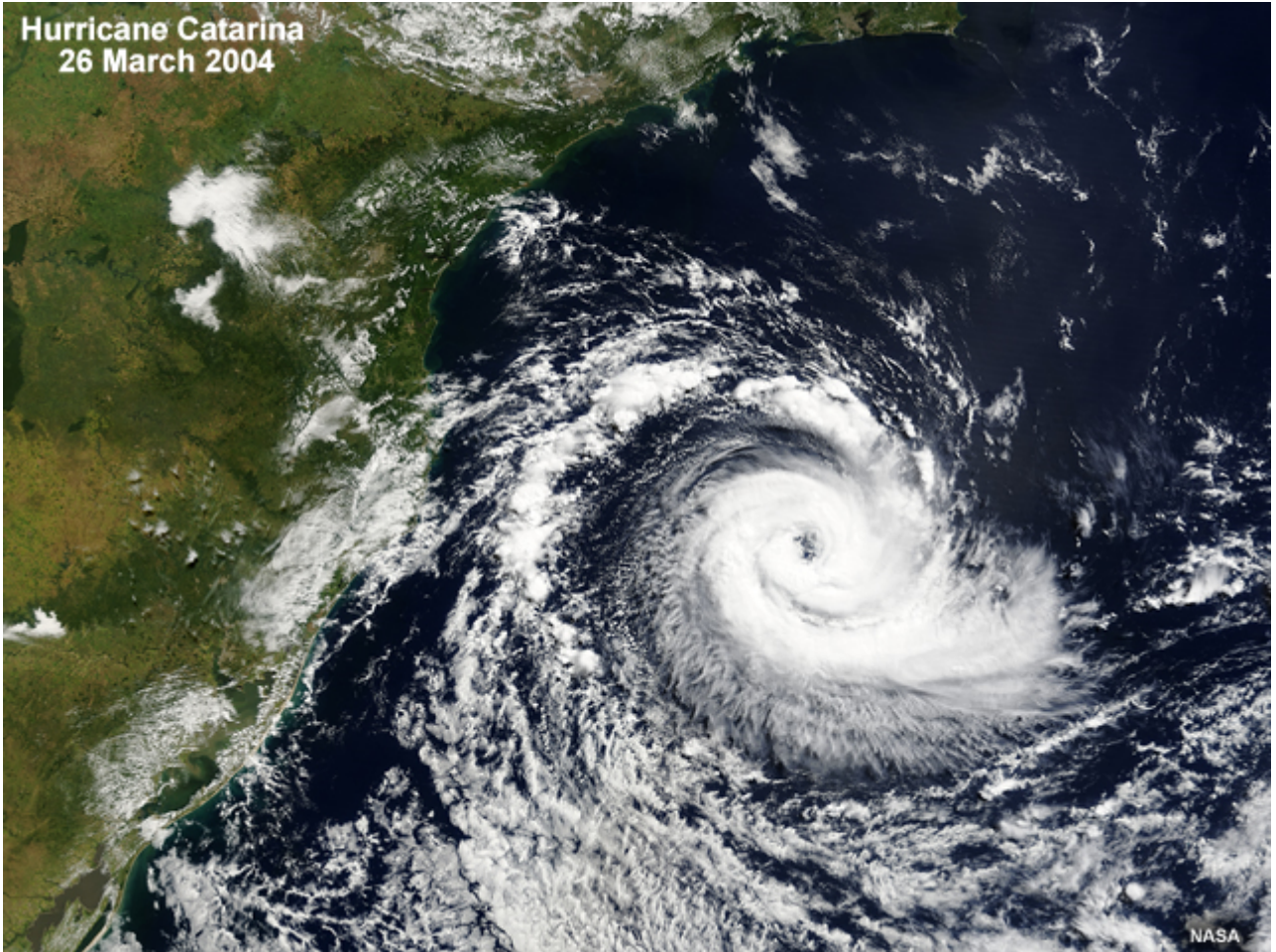
Hurricane Area From South America

written by Ms Zarka Khan | July 30, 2024
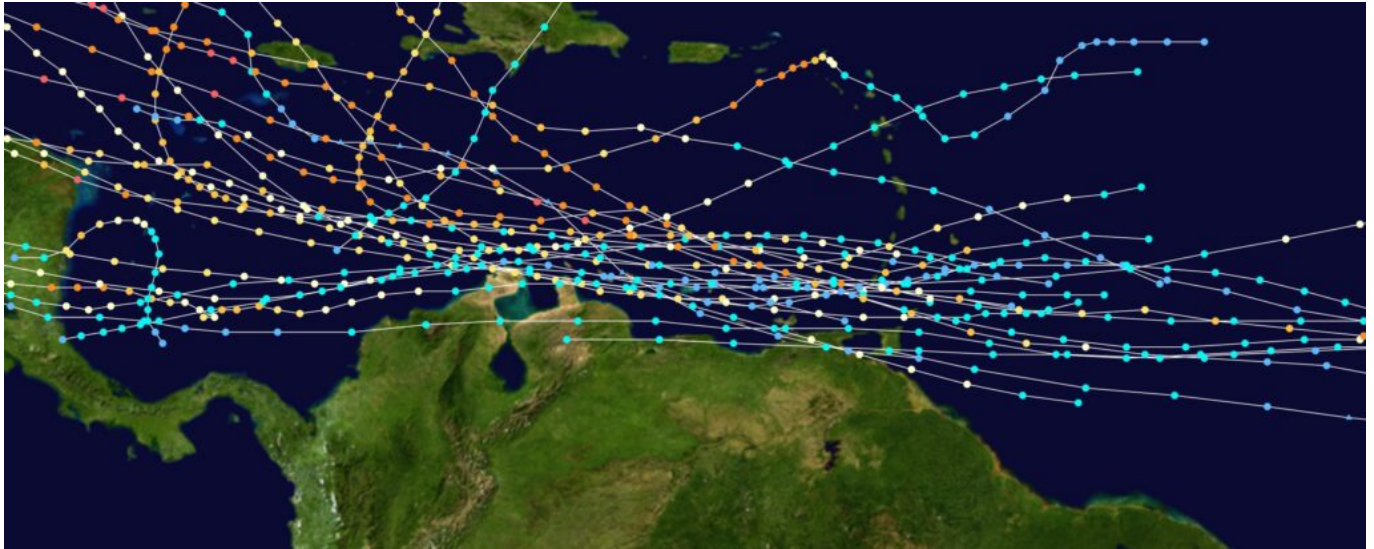
Hurricane areas in South America are relatively uncommon compared to other regions such as North America and the Caribbean due to the continent's geographical and climatic characteristics. However, when such events occur, they can have significant impacts due to the lack of preparation and infrastructure to deal with these rare phenomena.

One notable exception was when Hurricane Catarina, the first-ever recorded South Atlantic hurricane, made landfall in Brazil in March 2004. This unprecedented event caught the region by surprise, leading to widespread destruction in the southern state of Santa Catarina and parts of Rio Grande do Sul. With winds reaching up to 155 km/h (about 96 mph), it caused extensive damage to homes, infrastructure, and agriculture.

Hurricane Catarina, Brazil 2004

The introduction of Hurricane Catarina to the South American continent highlighted the potential for tropical cyclone formations in the South Atlantic, an area previously thought to be unsuitable for such phenomena due to its cooler sea temperatures and unfavorable wind shear conditions.

The casualties and damage from Hurricane Catarina were significant, with approximately 3 to 10 people reported dead, hundreds injured, and thousands displaced. The economic impact was also profound, with damage estimates ranging from $350 million to $1 billion, severely affecting the local economies and livelihoods. This event underscored the importance of preparedness and adaptation strategies for rare but potentially devastating natural disasters in South America.
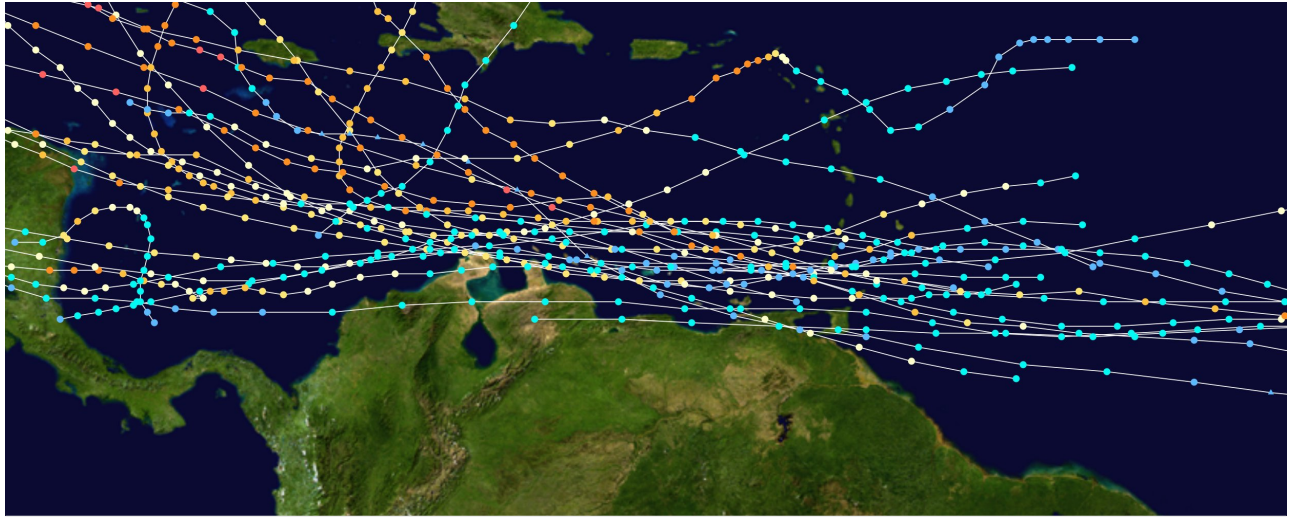
Track map of all North Atlantic tropical cyclones affecting South America from 1850

Islamabad's Response to Shangla Tragedy

written by Ms Zarka Khan | July 30, 2024

The tragic incident in Shangla District, northwestern Pakistan, where a suicide bomber targeted a vehicle carrying five Chinese nationals and their Pakistani driver, underscores the ongoing and significant security challenges confronting international personnel in Pakistan. This recent attack is particularly disconcerting for stakeholders of the China-Pakistan Economic Corridor (CPEC), a cornerstone of China's ambitious Belt and Road Initiative (BRI). The targeted individuals were en route to a pivotal hydropower project,

underscoring the essential nature of their contribution to the region's energy and infrastructure development. Unfortunately, this is not an isolated incident but part of a disturbing trend of attacks that have targeted CPEC projects and personnel in recent years.

The history of attacks on CPEC-related targets is alarming. In 2018, an attack on the Chinese consulate in Karachi by militants resulted in the death of four people, though consulate staff were spared. The attack was a bold statement against Chinese presence and investment in Pakistan. In another significant incident in 2020, militants stormed the Pakistan Stock Exchange in Karachi, a symbol of economic collaboration between China and Pakistan, leading to numerous fatalities. These incidents, coupled with the latest tragedy in Shangla, have cast a long shadow over the security measures in place for protecting the people integral to these infrastructural projects. In response to these recurring security breaches, Pakistan has taken several measures to reassess and reinforce the safety protocols for CPEC projects. The meeting between Pakistan's Interior Minister Mohsin Naqvi and a Chinese investigative team following the Shangla attack highlights the concerted efforts to not just address immediate security concerns but also to devise long-term strategies to mitigate such risks. These discussions reflect a deep-seated commitment to safeguarding the interests of foreign nationals working on these critical projects and maintaining strong international partnerships. CPEC, with its promise of over $65 billion in Chinese investment, is pivotal for Pakistan's economic revitalization and modernization. Spanning from Gwadar Port in the south to the northern borders, these projects aim to revolutionize connectivity within Pakistan and extend it to China, opening new avenues for trade and economic growth. However, the recurring threat from insurgent groups like the Balochistan Liberation Army (BLA) and others, who view these projects as encroachments on local rights or as exploitative, presents a significant challenge. The strategic importance of these projects, coupled with the security threats they face, calls for a robust and multifaceted security strategy. This not only involves bilateral cooperation between China and Pakistan but also necessitates broader regional cooperation, potentially under the auspices of the Shanghai Cooperation Organization (SCO). The SCO, with its focus on regional security, counter-terrorism, and fostering economic cooperation among member states, is well-positioned to play a vital role in enhancing the security landscape around CPEC projects. Enhanced collaboration within the SCO framework, leveraging intelligence sharing, joint counter-terrorism efforts, and regional stability initiatives, could provide a critical bolster to securing CPEC initiatives. This multilateral approach, complemented by bilateral security measures, is essential for mitigating the risks posed by non-state actors and insurgent groups.

The pattern of attacks targeting CPEC underscores the complex security dynamics in the region and the imperative for comprehensive, integrated security measures. Ensuring the safety of international personnel and securing the infrastructure under CPEC are paramount for the success of the Belt and Road Initiative and, by extension, for the socio-economic prosperity of the region. Collaborative efforts between China and Pakistan, bolstered by support from international and regional entities like the SCO, are critical in navigating the challenges posed by terrorism and separatism. Through a concerted commitment to security, collaboration, and development, the vision of a prosperous, interconnected region can be realized, mitigating the threats that have overshadowed these projects in the past. This ongoing commitment to enhancing security protocols and fostering a safe environment for all involved in CPEC projects is not just essential for the immediate success of these initiatives but also for the long-term stability and economic development of the region.

The South Asian Arms Race

written by Ms Zarka Khan | July 30, 2024

The arms race in South Asia has its roots deeply embedded in the historical, political, and territorial disputes among the region's primary actors, India, Pakistan, and, to a certain extent, China. The genesis of this competitive militarization can be traced back to the partition of British India in 1947, which gave birth to India and Pakistan, two nations that have since been embroiled in a series of conflicts, primarily over the contentious region of Kashmir. The first Indo-Pak war occurred shortly after independence, setting the stage for subsequent wars and military standoffs. The situation was further complicated by China's involvement in the regional dynamics, especially after the Sino-Indian war of 1962 over disputed border territories, which left a lasting impact on India's strategic outlook towards both its neighbors. The real pivot towards nuclearization in South Asia came in 1974 when India conducted its first nuclear test, dubbed "Smiling Buddha," positioning itself as a nuclear-capable state. This move was largely motivated by a desire to establish a deterrent against China's earlier nuclearization in 1964 and to assert its dominance in the region. Pakistan, feeling encircled and threatened, embarked on its nuclear program, achieving its goal in 1998 with a series of nuclear tests in response to India's tests earlier that same month. These events marked the official start of the nuclear arms race in South Asia, transforming the regional security landscape and introducing a nuclear dimension to the existing territorial and ideological conflicts. The ensuing years saw both India and Pakistan expanding their nuclear arsenals and developing ballistic missile capabilities, with each test and advancement being closely watched and often matched by the other. China's military modernization and its pivot towards enhancing strategic capabilities in the Indian Ocean have added another layer of complexity to the regional security environment, compelling India to further advance its military capabilities, not just to counter Pakistan, but to deter Chinese influence in its strategic backyard. The history of the arms race in South Asia is thus a narrative of strategic rivalry and security dilemmas, driven by historical grievances, territorial disputes, and the quest for regional dominance. This backdrop provides a crucial context for understanding the current state of military advancements in the region, including the latest developments.

The test of India's Agni-V missile on March 11, 2024, featuring the advanced Multiple Independently Targetable Re-entry Vehicles (MIRV) technology, signifies a critical juncture in the ongoing arms race in South Asia, a region already steeped in complex geopolitical tensions and historical conflicts. This development is part of a broader narrative of escalating military sophistication and strategic posturing in South Asia, highlighted by significant events such as Pakistan's testing of its Shaheen-III ballistic missile, capable of reaching all of India, and China's deployment of the DF-41, an intercontinental ballistic missile with MIRV capabilities, emphasizing the competitive nature of military advancements in the region. The introduction of MIRV technology by India, allowing for the deployment of multiple nuclear warheads from a single missile to various targets independently, represents a leap in ballistic missile capabilities, augmenting India's strategic deterrence challenging its regional adversaries and altering the strategic equilibrium. The evolving security dynamics in South Asia are profoundly influenced by these developments, driving a nuanced arms race that extends beyond conventional weapon systems to include cyber capabilities, space technology, and artificial intelligence applications in military strategy. This arms race is characterized by a multifaceted approach to enhancing national defense postures, with an increasing emphasis on technological superiority, survivability, and precision. The acquisition of MIRV technology, in particular, underscores a shift toward more sophisticated and survivable nuclear forces, with the potential to deliver multiple nuclear warheads across vast distances, thereby complicating missile defense efforts and strategic planning for adversaries.

This technological escalation is set against the backdrop of long-standing rivalries and territorial disputes in South Asia, most notably between India and Pakistan, and India's strategic contention with China. The induction of advanced military capabilities into the region's strategic calculus prompts a reciprocal enhancement of defense postures, perpetuating a cycle of military competition that exacerbates regional

tensions and undermines efforts toward stability and peace. The strategic rivalry between India and Pakistan is particularly impacted, with both nations seeking to maintain a credible deterrent posture while avoiding the pitfalls of a full-scale arms race. Similarly, India's military advancements are partly motivated by the need to counterbalance China's growing military capabilities and assert its position as a regional power. The implications of the South Asian arms race extend beyond regional security dynamics, impacting global strategic stability and non-proliferation efforts. The deployment of advanced missile systems, such as those equipped with MIRV technology, raises significant concerns regarding arms control and the potential for nuclear proliferation, as states outside the region may seek similar capabilities in response. Moreover, the enhancement of nuclear arsenals in South Asia complicates international efforts to promote disarmament and non-proliferation, challenging the existing frameworks and norms governing nuclear weapons. The pursuit of advanced military technologies in South Asia also highlights the critical issue of crisis management and conflict escalation in a nuclearized region. The deployment of systems capable of delivering multiple nuclear warheads with precision increases the stakes of strategic miscalculations and accidental escalations. The historical context of India-Pakistan relations, marked by periodic crises and conflicts, underscores the urgency of establishing robust mechanisms for crisis communication and confidence-building measures to mitigate the risks associated with these advanced military capabilities.

In addition to the strategic implications, the arms race in South Asia has profound economic and social impacts. The allocation of substantial resources to military advancements comes at the expense of social development and economic progress. The pursuit of technological superiority in defense capabilities necessitates significant investment, which could otherwise be directed toward addressing pressing societal needs, including poverty alleviation, healthcare, and education. This underscores the broader consequences of the arms race, affecting the welfare and development prospects of the region's populations. Furthermore, the environmental implications of military advancements, particularly in the context of missile testing and nuclear weapon development, raise concerns about the ecological impact of such activities. The testing of advanced missile systems involves risks of environmental pollution and degradation, contributing to the broader challenges of environmental sustainability and climate change mitigation. Addressing the challenges posed by the arms race in South Asia requires a comprehensive and cooperative approach, emphasizing dialogue, diplomacy, and confidence-building measures. The establishment of regional security frameworks, arms control agreements, and transparency measures can play a crucial role in mitigating the risks associated with military advancements and promoting stability and peace in the region. Moreover, international cooperation and engagement with global non-proliferation regimes and disarmament initiatives are essential to ensure that the advancements in military technologies in South Asia do not undermine global security and stability.

In conclusion, the testing of the MIRV-equipped Agni-V missile by India, amidst the broader context of an escalating arms race in South Asia, embodies the complex interplay between technological advancements, strategic posturing, and geopolitical dynamics. This arms race, characterized by the pursuit of advanced military capabilities, has significant implications for regional and global security, crisis management, economic development, and environmental sustainability. The challenges presented by the arms race underscore the need for concerted efforts toward dialogue, cooperation, and peacebuilding to ensure the

long-term stability and prosperity of South Asia and beyond. The pursuit of technological advancements in defense capabilities, while a sovereign prerogative, must be balanced with the imperative to foster peace, security, and development in one of the world's most volatile and dynamic regions.

How is SCO threatened by the Islamic Fundamentalists in the Eurasian region

written by Ms Zarka Khan | July 30, 2024

The Shanghai Cooperation Organization is a Eurasian political, economic, international security and defense organization established by China and Russia in 2001. Currently, eight countries enjoy the status of the SCO full members: India, Kazakhstan, China, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan; four countries including Afghanistan, Belarus, Iran and Mongolia have an observer status with the SCO, and six countries including Azerbaijan, Armenia, Cambodia, Nepal, Turkey and Sri Lanka have a dialogue partner status. If we take a map of the region where all of there countries are located, it is mostly, in the Asian Region. The Asian region is known to be turbulent, with the rise of Islamic fundamentalism since 9/11, Asia has become prominent in terms of their ground breeding Non state entities such as terrorist organization. With the instability in Afghanistan since 9/11, most the terrorist entities rose out of need to defend their homeland against the American invaders. Due to Pakistan and Afghanistan having parous borders, mostly there would movement of these non-state actors to hide and seek refuge. As there are many historical grievances known among the parties of South Asia, there are assumptions that most of these Islamic fundamentalist groups are funded by neighbors to create instability in the region. These instabilities not only impact the livelihood of these nations, but cost them in terms of restrictions on travel to other countries, sanctions etc.

Now, to understand how SCO is threatened by the role of non-state actors in the region, we have to understand the role of Islamic fundamentalism in the region. The Chinese Sinic order is at the risk of Uighurs Muslims in the Xinjiang regions, as they are at the border with Mongolia to the northeast, Russia to the north, Kazakhstan, Kyrgyzstan, and Tajikistan to the west, Afghanistan, and Pakistan to the southwest,

and India, Nepal, and Bhutan to the south (though directly with India along the disputed border). Any revolt that is experienced in Xinjiang will have a spillover effect. East Turkistan Islamic Movement is a Uighur militant organization operating in the region. Russia also has 1.4 million Muslims living in Chechnya, any type of spillover effect from Islamic fundamentalist activities can potentially risk the stability of the region. Pakistan has Tehreek-e-Taliban Pakistan operating within its borders, and Afghanistan has Tehreek-e- Taliban Afghanistan and India has Jaish-e-Mohammed (JeM) in Kashmir. Central Asia has the Islamic Movement of Uzbekistan that has managed to spur civil wars and create chaos in the region. It expanded its operations to other countries in the region. Islamic Jihad Union, a splinter group of the IMU, known for its involvement in global jihad and attempts to conduct attacks in Europe and against coalition forces in Afghanistan. Lastly, Hizb ut-Tahrir. Although it claims to be non-violent, this international pan-Islamist and fundamentalist organization calls for the re-establishment of the Caliphate and has been banned in several Central Asian countries due to its radical ideology. These groups threaten the SCO's stability by promoting radicalization, committing acts of terrorism, and challenging the territorial integrity of member states. Their activities can destabilize the region, affecting not just internal security but also international cooperation and development projects.

The Regional Anti-Terrorist Structure (RATS) of the Shanghai Cooperation Organization (SCO) plays a crucial role in coordinating efforts to combat terrorism, extremism, and separatism among its member states. Established in 2002, RATS is based in Tashkent, Uzbekistan, and serves as a platform for SCO member countries to share intelligence, coordinate anti-terror activities, and conduct joint military exercises aimed at enhancing their capabilities to tackle non-state actors and terrorist threats. To date, RATS has undertaken a range of activities to counter terrorist organizations within the SCO member states. RATS facilitates the exchange of information on terrorist activities, movements, financing, and other related intelligence among member states. This has been crucial in preempting and preventing terrorist attacks, disrupting terror networks, and arresting individuals involved in terrorism. The SCO, through RATS, organizes regular joint military and counter-terrorism exercises among its member states. These exercises, such as the "Peace Mission" series, are aimed at enhancing the readiness and interoperability of the military and security forces of member states in responding to terrorist threats. Moreover, RATS has been instrumental in the development and implementation of legal frameworks and agreements among SCO member states to combat terrorism. This includes agreements on extradition, mutual legal assistance, and the standardization of laws to prevent terrorism, extremism, and separatism. RATS also organizes workshops, seminars, and training programs for law enforcement and security personnel of SCO member states. These programs focus on enhancing the capabilities of member states in areas such as counter-terrorism financing, border security, cyber security, and the prevention of radicalization. RATS actively seeks to collaborate with other international organizations and regional bodies in the fight against terrorism. This includes working with entities such as the United Nations Office on Drugs and Crime (UNODC) and the Commonwealth of Independent States (CIS) Anti-Terrorism Center. As due to the porous border between Afghanistan and Pakistan, and Afghanistan having the reputation for Opium producing fields, it is important arrest these smugglers. As the SCO members are connected through land, through the BRI and other routes, it's important to safeguard these routes. Moreover, the BRI's emphasis on connectivity facilitates greater regional cooperation, which can enhance the effectiveness of initiatives like RATS in securing the region from terrorist threats.

The role of the Belt and Road Initiative (BRI) in relation to RATS and the SCO's counter-terrorism efforts is multifaceted. While primarily an economic project aimed at enhancing connectivity and cooperation across Eurasia, the BRI also has security dimensions. Through infrastructure development and increased regional integration, the BRI seeks to address some of the underlying socio-economic conditions that can contribute to terrorism and extremism. Tackling the threats posed by non-state actors and terrorist organizations to the SCO and its member states requires a comprehensive approach that goes beyond military and intelligence-sharing measures. This includes addressing the root causes of terrorism and extremism, such as poverty, inequality, political disenfranchisement, and ideological radicalization. Furthermore, enhancing regional cooperation, improving governance, and promoting sustainable development are also key to undermining the appeal and reach of terrorist organizations in the region.

Catastrophic Flooding in Gwadar

written by Ms Zarka Khan | July 30, 2024

The history of flooding in Gwadar, as for many coastal cities, intertwines closely with its geographical and climatic conditions. Gwadar, located on the southwestern coast of the Pakistani province of Balochistan, has experienced its share of natural challenges, including flooding, which has been exacerbated by its position along the Arabian Sea and its exposure to monsoon seasons. For much of its history, Gwadar was a small to medium-sized settlement with an economy largely based on artisanal fishing. The strategic value of its location was recognized in 1954 when it was identified as a suitable site for a deep-water port by the United States Geological Survey at the request of Pakistan. The construction on the first phase of Gwadar Port initiated in 2007 marks a significant point in its development history. However, until the launch of the China-Pakistan Economic Corridor (CPEC) in 2015, Gwadar's potential to be a major deep-water port remained largely untapped, partly due to various challenges including security concerns and lack of investment Flooding in Pakistan, including regions like Balochistan where Gwadar is situated, has been a recurring challenge, impacting vast areas and causing significant economic and human losses. The 2022 flooding event, for instance, affected most of Pakistan, including Balochistan and Sindh provinces, leading to at least 1,500 deaths and affecting 16 million children. The economic impact was profound, particularly in the agriculture sector, with crop damage in Sindh alone amounting to approximately Rs297 billion Gwadar's exposure to natural calamities like flooding underscores the need for comprehensive planning and investment in infrastructure to mitigate these risks. This includes enhancing the city's resilience through improved drainage systems, flood barriers, and early warning systems. Additionally, as a critical node in the CPEC initiative, ensuring Gwadar's resilience to flooding and other natural disasters is vital for the economic stability and security of the region. The strategic importance of Gwadar in the broader context of CPEC cannot be overstated, with significant investments aimed at transforming it into a major deep-water port that links northern Pakistan and western China to the Arabian Sea.

1. Cyclones and Storm Surges: The Arabian Sea is prone to cyclones, particularly during the monsoon season from June to September. These cyclones can cause storm surges that lead to coastal flooding in Gwadar and surrounding areas.

2. Heavy Monsoon Rains: The monsoon season can bring heavy rains to the region, overwhelming the drainage systems and causing urban and flash floods.

3. Inadequate Drainage Systems: Gwadar's rapid urbanization without proper planning for drainage infrastructure contributes to the flooding problem. The existing drainage systems are often inadequate to handle the runoff from heavy rains, leading to waterlogging and flooding in many areas.

4. Geographical Features: The topography of the area, including its coastal location and the surrounding hilly terrain, also contributes to the risk of flooding.

Relief Operations

In response to flooding, Pakistan's national and provincial disaster management authorities, along with local government bodies, NGOs, and international organizations, have conducted relief operations in Gwadar. These operations typically include:

• Evacuation of residents from high-risk areas before or during the flooding.

• Provision of emergency shelters, food, clean water, and medical aid to the affected populations.

• Restoration of essential services such as electricity, water supply, and communication networks.

• Rehabilitation of damaged infrastructure, including roads, bridges, and drainage systems, to restore normalcy.

Gwadar recently faced significant flooding due to record-breaking rainfall, prompting the district administration to declare a state of emergency. This unusual weather pattern for the winter season was highlighted by the Chief Meteorologist, emphasizing that Gwadar received an unprecedented amount of rain during these months In response to the calamity, Prime Minister Shahbaz Sharif unveiled a comprehensive relief package during his visit to the affected areas. The package includes financial compensation for the affected families: Rs2 million for families who lost loved ones, Rs500,000 for the injured, Rs750,000 for residents whose homes have been completely demolished, and Rs350,000 for households with partially damaged properties. Additionally, 7,000 ration bags are being distributed daily

among the displaced people. The Prime Minister also highlighted the government's commitment to aiding the victims, emphasizing that the relief is a duty, not a favor. The relief efforts include the distribution of cheques and relief goods, such as food items, blankets, and water coolers, to the affected residents The Pakistan Navy has also played a crucial role in relief operations, deploying helicopters to deliver ration bags, clean drinking water, and food items to the flood-affected villages of Pishukan and Kappar. Navy personnel have been actively involved in distributing rations and relief goods in Gwadar city and other affected areas. They have also undertaken de-flooding operations in various localities to clear flood water These recent floods in Gwadar, exacerbated by record rainfall, have prompted significant relief and rehabilitation efforts from both the government and the military, highlighting the challenges and the responsive measures undertaken to mitigate the impact on the affected population.

Upgrade Drainage Infrastructure: Enhance the city's drainage system to efficiently manage heavy rainfall. This includes expanding drainage capacity, clearing blockages regularly, and installing advanced water management systems.

Flood Barriers and Sea Walls: Construct flood barriers and sea walls along vulnerable coastal areas to protect against storm surges and high tides.

Flood-Resilient Urban Planning: Implement urban planning practices that take into account flood risks. This could involve zoning laws that restrict construction in flood-prone areas and promoting green spaces that absorb rainwater.

Early Warning Systems and Preparedness Plans: Develop and implement advanced early warning systems to alert residents of incoming floods. Establish comprehensive emergency response plans and conduct regular community drills.

Community Awareness and Education: Increase community awareness about flood risks and safety measures through education campaigns. Encourage participation in preparedness activities.

Ecosystem Restoration and Conservation: Restore and conserve mangroves and other natural barriers along the coast. These ecosystems act as natural defenses against floods and erosion.

Rainwater Harvesting and Storage: Promote rainwater harvesting and the construction of water storage facilities to reduce runoff and utilize rainwater for non-potable uses.

Resilient Infrastructure: Ensure that new infrastructure projects, including roads, bridges, and public buildings, are designed to withstand flood conditions.

Insurance and Financial Instruments: Encourage the uptake of insurance and other financial instruments that can help mitigate the financial impact of floods on businesses and households.

International Cooperation and Assistance: Seek technical and financial assistance from international organizations experienced in flood management and urban resilience.

Research and Data Collection: Conduct research and data collection on flood patterns, climate change impacts, and effective flood management strategies. Use this data to inform policy and planning.

Strengthen Governance and Coordination: Strengthen the coordination among national, provincial, and local governments in managing flood risks and responses. Ensure that there are clear roles, responsibilities, and accountability.

These recommendations require collaboration between government authorities, the private sector, non-governmental organizations, and the local communities to effectively reduce the risk and impact of flooding in Gwadar. Implementing these measures can also enhance the city's resilience to future climate-

related challenges.

Conclusion

The recurring flood events in Gwadar call for comprehensive planning and investment in infrastructure to mitigate these risks effectively. Recommendations for combating flooding in Gwadar encompass a broad spectrum of strategies, including upgrading drainage infrastructure, constructing flood barriers and sea walls, implementing flood-resilient urban planning, and establishing early warning systems. Moreover, community awareness, ecosystem restoration, rainwater harvesting, resilient infrastructure development, and strengthened governance and coordination are essential to enhancing the city's resilience against flooding. Ensuring Gwadar's preparedness and resilience is not only vital for its inhabitants but also crucial for the economic stability and security of the region, given its strategic role in CPEC. Thus, Gwadar's journey from a quaint fishing town to a focal point of international trade under CPEC, juxtaposed with its vulnerability to flooding, highlights the pressing need for integrated and sustainable solutions. These measures are imperative for safeguarding the city's developmental gains, protecting its communities, and securing its position as a linchpin in regional trade and economic growth.