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Introduction

The term "climate change" refers to the shifts in weather conditions. In the past, the Earth went through changes in temperature caused by natural events, such as changes in its orbit or volcano eruptions, however, since the 19th century, industrialization and human activity increasingly influenced drastic weather changes and severe natural events (United Nations, 2022). In the last decades, the consequences of climate change have become progressively more damaging for human life everywhere in the world. Global warming is the main effect of the growing amount of greenhouse gas emissions released into the atmosphere by human activities, a definition which became more popular in the second half of the 20th century, and used to describe the increased surface temperature of the Earth (*NASA - What's in a Name? Global Warming vs. Climate Change*, 2008). As a domino effect, higher surface temperatures can provoke more threatening events for human life, such as rising sea levels, melting glaciers, droughts, and torrential rains, bringing with them also social consequences like mass migration, hunger, and homelessness.

Since scientists all over the world started pointing out to the link between human activity and climate change, and disastrous natural events became more frequent, international policymakers were forced to take action. In the 80s, the first international bodies on climate were established. In 1988, the International Panel on Climate Change (IPCC) was created by the United Nations Environment Programme and the World Meteorological Organization with the intent of providing scientific assessments on climate change to policymakers (IPCC, 2022). In 1992, the United Nations Framework Convention on Climate Change was signed in Rio de Janeiro by 165 Countries. Three years later, in 1995, the first Conference of the Parties was held in Bonn, Germany, to review the Convention's implementation. In 2015, during COP21, the Paris Agreement was signed by 195 Countries, following the IPCC instructions to limit global emissions and cap the temperature rise to 1.5°C (UNFCCC, 2019).

However, actions taken until now seem to be too soft as disastrous natural events keep taking place, and although no country is immune to the damaging effects of climate change, some are more affected than others. Low- and middle-income countries are more subject to threatening events and their consequences than high-income countries. This difference mirrors the countries' capacity to adapt and mitigate climate change's negative effects and is inversely proportional to GHG emissions. Indeed, high-polluting countries such as the United States, China, and the European Union suffer the effects caused by greenhouse gas emissions softer than non-industrial countries. The Climate Risk Index developed by Germanwatch ranks the countries most affected by climate change consequences, and South and South-East Asian countries dominate the ranking, together with some South American and African countries. Bangladesh and Pakistan are respectively the seventh and eighth ranked countries most affected considering the period 2000 to 2019, while India ranked seventh in the year 2019 (Eckstein et al., 2021).

This article will focus on the major natural events caused by climate change in Pakistan, Bangladesh, and India, comparing these countries' emissions to those of China, the US, and the European Union. Data will underline how developing South Asian countries and people in this region are among the primary victims of tragic events related to climate change, even though they contribute the least to global emissions. Eventually, recommendations for urgent mitigation and adaptation measures will be suggested.

Table 1 - The Long-Term Climate Risk Index (CRI):
The 10 countries most affected from 2000 to 2019 (annual averages)

CRI 2000-2019 (1999-2018)	**Country**	**CRI score**	**Fatalities**	**Fatalities per 100.000 inhabitants**	**Losses in million US$ PPP**	**Losses per unit GDP in %**	**Number of events (2000-2019)**
1 (1)	Puero Rico	7.17	149.85	4.12	4 149.98	3.66	24
2 (2)	Myanmar	10	7 056.45	14.35	1 512.11	0.8	57
3 (3)	Haiti	13.67	274.05	2.78	392.54	2.3	80
4 (4)	Philippines	18.17	859.35	0.93	3 179.12	0.54	317
5 (14)	Mozambique	25.83	125.4	0.52	303.03	1.33	57
6 (20)	The Bahamas	27.67	5.35	1.56	426.88	3.81	13
7 (7)	Bangladesh	28.33	572.5	0.38	1 860.04	0.41	185
8 (5)	Pakistan	29	502.45	0.3	3 771.91	0.52	173
9 (8)	Thailand	29.83	137.75	0.21	7719.15	0.82	146
10 (9)	Nepal	31.33	217.15	0.82	233.06	0.39	191

Source: Eckstein et al. (2021)

Table 2 - The Long-Term Climate Risk Index (CRI):
The 10 most affected countries in 2019

Ranking 2019 (2018)	**Country**	**CRI score**	**Fatalities**	**Fatalities per 100 000 inhabitants**	**Absolute losses (in million US$ PPP)**	**Losses per unit GDP in %**	**Human Development Index 2020 Ranking**
1 (54)	Mozambique	2.67	700	2.25	4 930.08	12.16	181
2 (132)	Zimbabwe	6.17	347	2.33	1 836.82	4.26	150
3 (135)	The Bahamas	6.5	56	14.7	4 758.21	31.59	58
4 (1)	Japan	14.5	290	0.23	28 899.79	0.53	19
5 (93)	Malawi	15.17	95	0.47	452.14	2.22	174
6 (24)	Islamic Republic of Afghanistan	16	191	0.51	548.73	0.67	169
7 (5)	India	16.67	2 267	0.17	68 812.35	0.72	131
8 (133)	South Sudan	17.33	185	1.38	85.86	0.74	185
9 (27)	Niger	18.17	117	0.5	219.58	0.74	189
10 (59)	Bolivia	19.67	33	0.29	798.91	0.76	107

Source: Eckstein et al. (2021)

Climate change effects in South Asia

- **Pakistan**

Considering the first 20 years of the current century, Pakistan ranked 8th on the Long-Term Climate Risk Index, hit by 173 disastrous natural events (Eckstein et al., 2021). The increasing temperature, which in the past summers reached 49°C in Pakistan, is influencing the monsoon season: Warmer air holds more moisture, increasing the intensity of monsoon rainfall by eight times more than usual, and

causing floods even in southern regions which are normally arid, namely Sindh and Balochistan (Rannard, 2022). Furthermore, warmer temperatures also cause severe droughts, which alternate the heavy rainfall, and the fast melting of the glaciers in Pakistan's region of Khyber Pakhtunkhwa and Pakistan-administered Jammu & Kashmir region's of Gilgit-Baltistan. Hot temperatures, droughts, heavy rainfall, and floods reciprocally worsen each other's negative effects as the hard soil caused by extremely hot temperatures makes it arduous for monsoon rain to drain, feeding the floods which then require months before fully draining.

From June to September 2022, Pakistan experienced catastrophic floods which caused the death of almost 1800 people and damaged the economy by $15bn (Ahmed, 2023), other than the displacement of 7.9 million people (British Red Cross, 2022). 1.2 million livestock, as well as half the country's crops, were also lost during the floods, leaving a lack of primary goods. A report from the British Red Cross (2022) expects 8.6 million Pakistanis to face hunger in the next few years and the country will increasingly rely on imported and more expensive primary goods if droughts and intense floods will keep hitting the country.

Pakistan's geography and demographic settlements increase the impact of climate disasters on the population. Pakistan's weather is typically characterised by a dry and hot season, and a rainy monsoon season (World Bank, 2021). However, differences can also be found throughout the country: monsoons hit harder in the northern regions, while the southern regions normally suffer from dryer weather and hotter temperatures. As temperatures are increasing everywhere in Pakistan, heavier droughts, monsoon rainfalls, and floods are lately affecting the country in its entirety. Pakistan's demographic distribution also increases the impact of floods on the population. Most of Pakistan's population is settled along the Indus River, which, during the monsoon season, easily overflows (Rannard, 2022). With a GDP per capita of USD 1.505, most Pakistanis cannot afford good housing infrastructure and are extremely vulnerable to floods (Handley, 2022).

The social effects of climate change are extremely visible in Pakistan. In a country where women cover a disadvantaged social position, their risks during climate hazards skyrocket and are tremendously higher than those faced by men. The floods that hit Pakistan in 2022 acted as a "threat multiplier" for the female population. During disastrous natural events, women have experienced more exposure to domestic and sexual violence and abuse, exploitation, maternal mortality, child marriage, and human trafficking. During the 2022 floods in Pakistan, the worst affected people belonged to lower economic classes, aggravating the economic inequalities within the country. The disadvantaged social position that women cover exacerbates the effects of climate change on the female population. As women are normally responsible for securing food and water, during periods of drought or inconsistent rainfall, they are subject to more pressure to procure these resources for their families. Because girls are required to spend more time in caretaking, the numbers of female school dropouts during and after periods of crises increase. Girls' lack of education and worse economic situations often push families to find easy ways to meet basic needs and after disastrous natural events, women with a low-income background are increasingly exposed to trafficking and child marriage, in the hope of finding more economic stability for themselves and their families, securing funds and recovering losses experienced due to climate-related disasters. In the aftermath of Pakistan's floods in 2010, the marriage rate for girls of age 15-19 rose from 10.7% to 16% (Irfan, 2023). After the 2022 floods, rates of child marriage are expected to follow the same trend. Especially underdeveloped, marginalized and discriminated regions in Pakistan have been at the receiving end. In 2022 the number of trafficked people drastically rose in comparison to the previous years, and in Sindh 434 people were registered as trafficked, while in 2020 the number stood at 6 (Rasheed, 2022). The majority of these victims are women and children, forced on this path by the destruction, unemployment, discrimination and unequal resource distribution in the country. When it comes to healthcare, women are a particularly vulnerable social category as they have limited access to the healthcare system and amenities causing drastic negative effects on women's health. Rates of stillbirth have proven to increase during periods of extreme heat, which also facilitates the spread of illnesses linked to risky childbirth. During catastrophic events such as the recent floods, pregnant women are more exposed to preterm birth, low birth weight, small for gestational age,

stillbirth, and spontaneous abortion. More than 1000 medical facilities were damaged by the floods in Sindh, and 198 in the province of Balochistan, leaving hundreds of pregnant women without sufficient healthcare assistance (Ochani et al., 2022).

The systematic exclusion of the Pakistani female population from decision-making processes represents an obstacle to inclusive, wholesome and thorough actions attempted to mitigate climate change consequences. In Pakistan, women in senior, managerial or legislative roles cover only 4.5% of the total (World Economic Forum, 2022). Women's representation in politics and policy-making positions is the only and most effective way to follow a path towards the empowerment of women and the guarantee of gender-responsive social services, especially in moments of climatic crisis.

Despite being one of the countries most affected by the negative effects of climate change, Pakistan registers very low emissions of CO2, contributing to global emissions with a share of 0.62%. In 2021, Pakistan's annual emissions were 229.51 million tonnes and the per capita emissions were 0.99 tonnes for the same year (Ritchie & Roser, 2020). Pakistani people contribute to an imperceptible share of GHG emissions, but are among the most hardly affected populations.

Despite its economic struggles and its low impact on global emissions, Pakistan is attempting to take action to mitigate and adapt to the consequences of climate change. Since 2021, the country announced its willingness to cut its emissions to 50% by 2030, shift its energy production to 60% of renewable sources, and improve and implement adaptation tools in agriculture, biodiversity and ecosystem, disaster risk management, forestry, health, waste, and water use (UNDP, 2023). Whether the political instability and economic crisis will allow the country to fulfil its promises remains a question.

- **Bangladesh**

The youngest country in South Asia, Bangladesh, ranks 7th among the top vulnerable countries to climate change effects in the last 20 years (Eckstein et al., 2021). Tropical cyclones, floods, sea level rise, and glacier melting were part of the 185 devastating events that hit the South Asian country from 2000 to 2019, with $3.72 billion worth of economic losses (Rojas, 2021). Sea level rise constitutes a particularly dangerous problem in Bangladesh as two-thirds of the country lies below 4 metres above sea level and a third of Bangladesh's population lives in coastal areas: An increase of only 50cm in sea level would cause a loss of 11% of Bangladesh's land (Rojas, 2021). The rising sea level does not only constitute a threat of floods, lost territory, and displacement of people, but also has other devastating consequences, like sea salt infiltrating the ground, damaging its quality, and causing the loss of crops. Salinization can also contaminate drinkable water, which use can be related to the development of cardiovascular diseases (Rojas, 2021).

Almost 60% of Bangladesh's population lives in "high climate exposure areas", risking their lives in case of cyclones or floods or being displaced in urban areas, creating an internal migration crisis. The increase in the number of climate refugees represents the main social consequence of climate change in Bangladesh. The capital Dhaka ranks as the fourth most populous city in the world with a population of over 22,4 million inhabitants in the metropolitan area, after Tokyo, New Delhi, and Shanghai (*Dhaka Now 4th Most Populous City Globally*, 2022). The city also holds one of the highest population densities in the world: 23,234 people per square kilometre (World Population Review, 2021). The threat of more frequent cyclones and floods is already pushing the coastal population to urban areas: 50% of the population of Bangladesh's urban slums is estimated to be constituted by climate refugees, however, this rate is expected to grow in the coming years, increasing the population density of urban slums (Rojas, 2021). Nevertheless, urban areas and their slums do not represent a secure escape from climate events, on the contrary, Bangladesh's urban areas are not equipped with the necessary mitigation and

adaptation measures to provide refuge from heavy climate events, which will generate 13.3 million internal migrants by 2050 according to a World Bank estimate (2022).

Climate change's social consequences are expected to provide a tough challenge to policymakers in the upcoming years. Islam is Bangladesh's official religion, and it is practised by the majority of the population (91%), while Hinduism characterises about 8.5% of Bangladeshis (*Census 2022: Rajshahi Tops Divorce Rate, Sylhet Has Most Unmarried People*, 2022). Communal violence between Muslims and Hindus saw an increase in the last few years, seeing the Hindu population repeatedly being victim of acts of intimidation and riots by the Muslim population. Since Bangladesh's coastal areas are characterized by a Hindu majority, the displacement of people from the coast to urban areas mostly populated by Muslims will bring together the two communities, creating concerns about possible rise in communal violence (Hasan & Macdonald, 2021).

Bangladesh has invested billions of dollars in adaptation and mitigation to buffer the effects of climate change. In the past three decades, Bangladesh invested more than $10 billion in adaptation and mitigation projects and since 2009 the country's government developed the Climate Change Strategy and Action Plan and the Climate Change Fund with an initial capitalization of $45 million from the country's budget had also been founded (World Bank, 2010).

The amount of risk and tragic natural events directly linked to climate change that hit Bangladesh does not reflect the country's emissions, which are among the lowest in the world. In 2021, Bangladesh assessed annual CO2 emissions of 93.18 million tonnes, while the per capita emissions were only 0.55 tonnes, and the country's share of global emissions was 0.25%.

- **India**

As the 7th largest country in the world, covering an area of 3.287.263 sq. km, almost as big as the EU, India is often referred to as a "subcontinent". Its climate is classified as tropical monsoon and, apart from slight differences in temperature from north to south, the whole country is characterized by high temperatures in summer and dry winters (india.gov.in, 2011). However, its wide extension facilitates the presence of different climatic threats, in particular heatwaves, forest fires, droughts, floods, rising sea levels, and glacial melting, which place India as the 7th most affected country by climate change events in 2019 (Eckstein et al., 2021). In 2022, 80% of the year was characterized by extreme weather events (Mehta, 2023). The rising sea level represents a particularly dangerous threat for India, which has a coastline of 7.517 km. It is estimated that a sea level rise of 50cm will put at risk the lives of 28.6 million people, only considering six port cities of Chennai, Kochi, Kolkata, Mumbai, Surat and Visakhapatnam (Aggarwal & Ghosh, 2021). Meanwhile, monsoon rain saw a drop in total annual rainfall, but its intensity increased causing extreme rainfalls and floods everywhere in the country (The Climate Reality Project, 2022). Last year, 12 states/union territories have been affected by floods, causing the death of more than 3000 people, damaging half a million houses, and destroying crops and livestock (Pandey & Sengupta, 2022).

India is also experiencing a rise in temperature. Like Pakistan, some areas of India, including New Delhi, reached 49°C in March last year. Heatwaves have a disastrous effect on the country, as they are responsible for the melting of Himalayan glaciers, droughts, and forest fires. As crops were lost due to the lack of water, India was forced to stop wheat exports to countries affected by the war in Ukraine to guarantee enough food for its population. In the period 2017-2021, death related to extreme heat increased by a rate of 55% compared to the first five years of the century (The Climate Reality Project, 2022). Forest fires are also a heatwave consequence that is becoming more and more common every year. February and March 2023 have been particularly characterized by forest fires throughout all of India. Temperatures have been 5-9°C hotter than normal and rainfalls registered a 77% decrease (Yashwant, 2023). The hot and dry month of February shaped the perfect conditions for an easy spread

of forest fires, registering around 42,799 fires only from the 1st to the 12th of March 2023. Many states/union territories have been affected by forest fires in these first months of the year (Nandi, 2023), and these uncontrolled fires are significantly damaging the ecosystem, biodiversity, and forest communities in the country and are having an impact on India's air quality.

Although India's economy is in constant growth, economic inequalities within its population still represent a major problem for the country: 77% of the national wealth is owned by 10% of the population, leaving the rest of the population with the remaining 33% of national wealth (Oxfam, 2019). Disasters related to climate change exacerbate these inequalities, leaving the poorest social groups, which rely on natural resources for their livelihoods, vulnerable to natural hazards. Climate change consequences such as heatwaves and flooding are also linked to an increase in the spread of diseases, particularly heat strokes and infectious diseases, which disproportionately affect the lowest social classes, that cannot afford cooling systems and reside in congested infrastructure households.

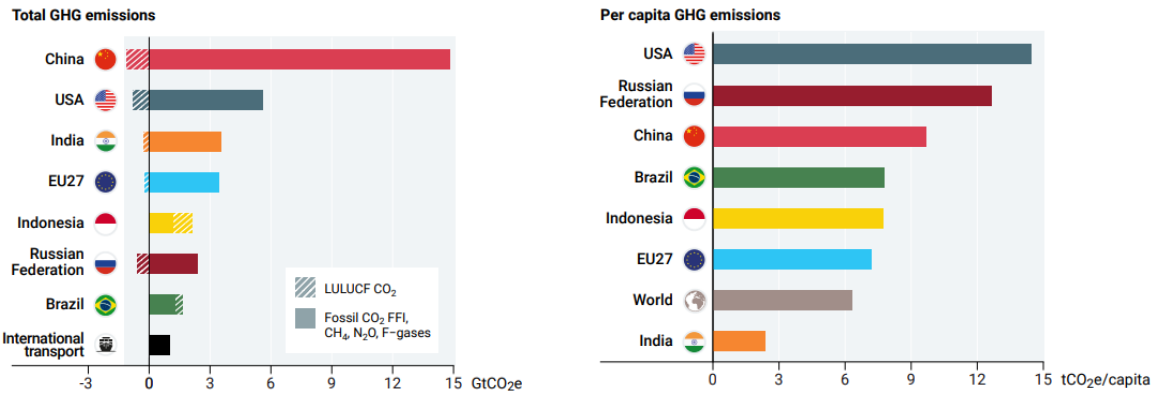
In 2021, India's total emissions were 1.93 tonnes and the country covered a share of 7.30% of global emissions (Ritchie & Roser, 2020). With a population of 1.4286 billion people, India's per capita emissions are very low: 1.93 tonnes.

As one of the most affected countries by climate change, during COP26 which took place in Glasgow (UK) in November 2021, India announced its willingness to achieve the target of net zero emissions in 2070 (pib.gov.in, 2022). Net zero emissions are defined as the balance between the quantity of GHG emitted and the quantity of GHG removed from the air. India's goal provoked contrasting opinions: some consider 2070 as being too late since most of the developed countries set the net zero target to be reached in 2050, however, others consider it to be a reasonable and unexpected target for one of the fastest developing countries in the world. After one year, during COP27 in Egypt, the Indian representatives referred to the progress their country has made in terms of green transition, reporting particular improvements in renewable energy, e-mobility, ethanol blended fuels, and green hydrogen as an alternate energy source (UNFCCC, 2022).

Western countries and China

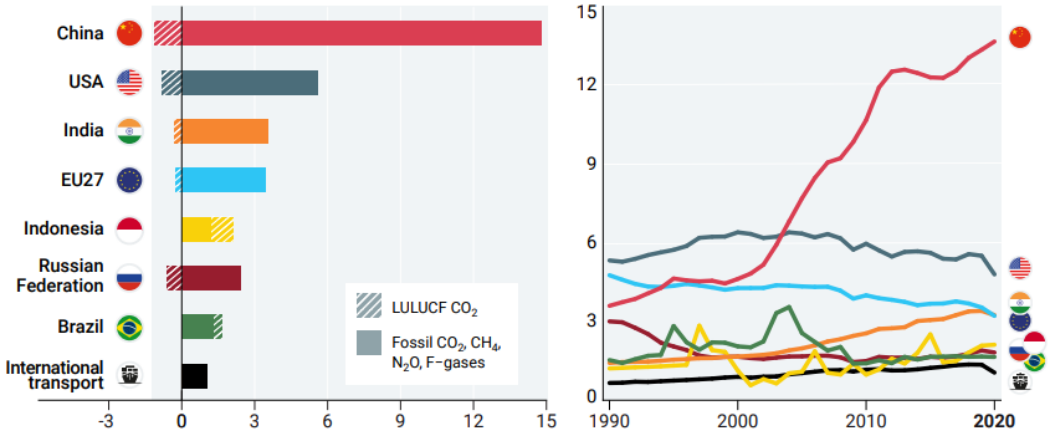
While South Asian people are suffering from the disastrous consequences of climate change, Western and other industrialized countries are the top contributors to GHG emissions and the least affected by climate change, while effects such as intense droughts and torrential rains have started to arise in industrialized countries as well (European Environment Agency, n.d.), however, the consequences of these events are better-mitigated thanks to better infrastructure and the Mitigation and Adaptation plans fostered by these countries. The contribution to the global GHG emissions of the European Union, the United States and China highlights how climate change is not indifferent to economic inequalities.

Chart 1 – Total and per capita GHG emissions of major emitters in 2020, including inventory-based LULUCF



Data from United Nations Environment Programme (2022)

Chart 2 – GHG emissions in 2020 and trend since 1990, including inventory-based LULUCF ($GtCO_2e$)



Data from United Nations Environment Programme (2022)

- **European Union**

As the first continent to industrialize, with 27 member States and a population of about 447 million people, the European Union ranks the fourth largest polluter as of 2020 according to the United Nations Environment Programme (2022) and covers a share of 7,3% of global GHG emissions (Ritchie & Roser, 2020). EU's emissions are slightly lower than India's emissions, with 2,7 billion tonnes in 2021, and with one third of India's population, however at 7,2 tonnes, the EU's per capita emissions greatly surpass India's.

The European Union, thanks to joint climate policies, followed by the Adaptation Strategy (European Commission, 2021) and the European Green Deal (European Commission, 2019) managed to lower its emissions through the years, which in 2021 were 27,3% lower than in 1990 (European Commission, 2022), and keeps setting ambitious goals for the future, such as reaching zero net emissions of GHG by 2050.

However, these improvements have proven not be enough to drastically cut GHG emissions worldwide and soften the effects of climate change. Year after year, the European continent is affected by heavier climate disasters, especially heatwaves, droughts, and torrential rains which are anomalous for the European climate. In the last 30 years, European temperatures have risen more than twice the global average (World Meteorological Organization, 2022), and, especially in Southern Europe, heatwaves are causing intense drought, and, consequently, the loss of crops, but also the death of thousands of people who have no access to cooling systems (Politico, 2021). In 2022, around 20,000 people died due to circumstances linked to extreme heat (Laville, 2022) and around 160 died due to floods in 2021 (Euronews, 2021). Even though these numbers cannot be ignored, comparing them to life losses in South Asia (Table 1 and 2) for the same reasons highlights how good infrastructures and Adaptation and Mitigation strategies can make a difference for the civil population when confronted with natural disasters.

Under the Paris Agreement, developed countries agreed on moving a total of $100 billion (around €84 billion) to finance developing countries in their green transitions and mitigation and adaptation actions. The EU ranks first for the largest amount provided to developing countries, which in 2021 was €23 billion (European Council, n.d.).

- **United States**

After China, the US are the second most emitting country in the world, with a share of global emissions of 13,49%. Even though the US are second to China with regard to their total emissions (which in 2021 were 5,01 billion tonnes), they rank first with regard to per capita emissions: 14.86 tonnes.

Just like the EU, US GHG emissions also decreased in the last decades. In 2021, GHG emissions were 17% lower than in 2005. However, they were 6% higher than in 2020 (US Environmental Protection Agency, 2017). It must be considered that the US owns hundreds of offshore oil platforms and military bases, which contribute to global emissions in a substantial way and a 2022 study revealed that offshore oil and gas platforms release a methane loss rate of 23%-66%, which is only 3% on onshore platforms (Reuters, 2022). The US Army and its activities around the world also contribute to the release of a substantial amount of GHG emissions. 2019 research from Lancaster University revealed that the US Army consumes more liquid fuels and is responsible for more emissions than most countries in the world, and it would rank 47th in terms of emissions if it was a country, emitting more GHG than Morocco, Peru, Hungary, Finland, New Zealand and Norway. These emissions come from an extensive network of trucks, planes, and ships all around the world, which are used to supply the US military wide range of operations.

With a population of almost 332 million people spread over a territory of 9.834 million sq. km, the effects of climate change can increasingly be seen in the US. Depending on the region, people are threatened by heatwaves, extreme rainfall, coastal flooding, droughts, wildfires, glacial melting, and hurricanes (U.S. Global Change Research Program, 2014). In 2022, the US were affected by 18 natural disasters which created damages for a total of about $165 billion and 500 deaths (Voyles Pulver, 2023).

Until 2021, the US contributed to the Climate Change Aid with $5.7 billion per year. In April of the same year, President Biden announced that the amount would have doubled, bringing it to $11.4 billion (Volcovici, 2021). However, many consider this amount to be insufficient compared to the US emissions, which are the second highest in the world.

- **China**

With a growing population of 1,4 billion people, since 2005, China became the most polluting country in the world, surpassing the US (Maizland, 2021). While the Chinese population equals the Indian one, the former's emissions are six times higher than the latter's and are even higher than the emissions of the US, India, and the EU put together, which constitute 28,09% of global emissions: China is responsible for 30,90% of global GHG emissions, which translates into 11.47 billion tonnes per year and 8.05 tonnes per capita (Ritchie & Roser, 2020).

As well as the rest of the world, in the last years, China is increasingly struggling with weather events related to climate change, such as drought, extreme heat, and heavy rainfalls. It is estimated that heat waves on Chinese territory kill around 15.000 people every year (Chen et al., 2022).

China's industrialization happened quickly and intensively, marking it one of the current century's most important and decisive events in economics as well as geopolitics. From the 1980s, in only 40 years, starting from a GDP-per capita that was one-third of sub-Saharan Africa, the Asian country established itself as the factory of the world, producing almost half of the global industrial goods (Federal Reserve Bank of St. Louis, 2015). The country's rapid heavy industrialisation was consequentially followed by a drastic increase in the amount of GHG emissions, which in the last 20 years saw a huge boost and did not stop at its borders. In the last decades, China has started investing abroad on a massive scale, creating a phenomenon never seen before: a recently industrialized country managed to invest enormous amounts of money in foreign countries, as China's direct investments abroad reached an all-time high of USD 66.6bn in 2015 and a total of USD 44.2bn in December 2022 (CEIC, n.d.). Chinese money in

foreign countries is mostly invested in constructing big infrastructure for extracting fossil fuels, especially in developing countries in South Asia, Africa, and South America (Vieira, 2018). However, it is difficult to find exact data and figures about China's investments abroad, since the country does not provide clear data and withdrew from international reporting systems, namely the OECD's Creditor Reporting System and the International Aid Transparency Initiative.

Launched by President Xi Jinping in 2013, the massive project of the Belt-and-Road Initiative constitutes an increasing reason to worry about the climate condition. Also known as the "new silk road", the BRI is the biggest infrastructure project ever conceived, which links all the continents to China through the construction and improvement of land and maritime trade routes. To fulfil the BRI infrastructure need, the Chinese Government is especially focusing on developing countries, offering them loans to implement the infrastructure needed, described as a debt trap by critics, especially after the recent Sri Lankan economic crisis and impending economic crisis in Pakistan. The immense Belt-and-Road Initiative poses great concern for future climate change and GHG emissions developments and while in 2021 China promised to stop investing in the development of highly polluting projects, especially those involving coal mining and coal power stations, it is not clear whether this statement represents a genuine will (Hillman & Tippett, 2021). China is currently the world's largest green energy producer and is committed to reaching carbon neutrality by 2060, however on the other hand, Chinese emissions are being moved overseas through the contraction of BRI infrastructure in partner/host countries.

In global terms, China is the most polluting country in the world, with a share of 30% of global emissions caused by the reckless use of carbon fossils to boost its industrial development and economic growth. The enormous amounts of Chinese emissions are especially weakening its neighbouring countries, which mostly suffer from cyclical climatic threats. During the recent UN Climate Change Conference in Egypt, COP27, in 2022, small developing countries, united under the Association of Small Island States, held the Asian country accountable for its massive emissions and climate change and asked for financial aid coming from Chinese pockets. However, President Xi Jinping announced the country will not contribute to the Climate Loss and Damage Fund for developing nations, despite his support for the mechanism (Lee, 2022). In doing so, the Chinese government is once again confirming its disregard towards climate change and its responsibilities.

Recommendations

It seems clear that, while South Asian countries, as well as other developing countries throughout the world, are mostly affected by the disastrous consequences of climate change, Western countries and China, which exploited fossil fuels to establish their economies, are the main ones responsible for the rise of climate change. To halt climate change it is necessary to reduce and end GHG emissions as soon as possible, however, developing countries must be guaranteed stable economic growth in the upcoming years to secure a steadier future for their populations. This article offers recommendations for mitigation and adaptation measures that will help reach this goal, which will be divided into four main interconnected fields of action: Infrastructure amelioration, financial interventions, social measures, and international cooperation.

- **Infrastructure amelioration**

In Pakistan, Bangladesh, India, and in all the countries most affected by climate change there is an urgent need for improved infrastructure, which can better sustain the climate pressure in case of extreme natural hazards. In countries particularly exposed to floods, the drainage system must be upgraded, in order to prevent the flooding of urban areas and the destruction of households, crops, and livestock: Bridges must be reinforced, and roads must be secured from the threat of sudden flooding. It is advisable to forbid the construction of households in high-risk areas, further protecting urban neighbourhoods

with protective infrastructure. Early-warning systems will give enough time for inhabitants of high-risk areas to leave their households safely before the advent of floods or other threatening events that could put people's lives at risk. To increase the territorial resistance to variable rainfall, projects for better management of water resources and urban planning must be developed and implemented quickly.

- **Financial interventions**

Infrastructure improvements and sustainable adaptation plans need great availability of funds to be implemented, however, it is very unlikely that all South Asian developing countries have the capacity to invest such amounts. The international community is highly encouraged to provide further financial aid to developing countries, especially to those highly exposed to the negative effects of climate change. Mitigation and adaptation measures need funds to ensure the most efficient public services, nature-based solutions, and infrastructure. The implementation of policies aimed at decreasing emissions, such as the shift of industries to more sustainable processes, are extremely expensive and hardly accessible to developing countries. The help provided through the Paris Agreement is showing to be insufficient, especially looking at the small economic effort put in place by most polluting countries such as the US and China.

- **Social measures**

Climate change threats have proven to exacerbate social issues such as gender inequalities and communal conflicts. According to estimates, women and children due to their disadvantaged position in society, are 14 times more likely to die when climate disasters hit (UN Women, 2019). For a thorough mitigation and adaptation plan, the societal point of view cannot be forgotten to make sure that the needs of disadvantaged communities and social groups are well taken into account and that everyone is equally protected from the consequences of climate change. Governments must also focus on the promotion of conflict resolution and dialogue among communities, as well as pluralism and the fight against extremist ideologies. Communities affected by climate hazards are more exposed to pursuing illegal paths for income generation. Social services are very vulnerable when natural disasters hit, hindering even more, the condition of specific social groups. Therefore, it must be imperative that such services remain available and operate in crises, maintaining service delivery and the rule of law.

- **International Cooperation**

Climate change is a wicked problem and a global fight, which no country is immune to. Notwithstanding that currently developing countries are the most affected, this should not be a reason for developed countries to underestimate the issue and let their guard down. The only possibility to defeat climate change and its dangerous effect is to act altogether in the same direction. The historical approach, which sees developed countries as the ones responsible for GHG emissions and climate change, is by now widely accepted at an international level, however, the efforts made by developed countries to lower their emissions are still not enough. Low carbon growth strategies are fundamental and must be implemented in every country, fastening and widening the implementation of renewable energy, as well as energy and transport efficiency. Agriculture should also be converted to more efficient production methods, introducing already existing up-to-date agricultural methods with low carbon emissions and less water waste.

CONCLUSION

Threats related to climate change are increasing every year and as we enter summer and the monsoon season, we expect to see South Asian countries and people affected once again by heatwaves, heavy rainfall, and flooding. These events' cyclical occurrence makes it evident how much a quick intervention is needed on various fronts: lowering GHG emissions, infrastructure renovation, and

financial aid to developing countries in order to develop better mitigation and adaptation strategies. Despite their low GHG emissions, every year South Asian developing countries face tremendous climatic threats that provoke the death of unacceptably high numbers of people, proving the unbalanced way in which climate change affects developed and developing countries.

Apart from climatic threats, policymakers cannot forget about the social consequences of climate change, which constitute a further threat to the stability of South Asian countries. This article attempts to highlight the importance of taking action to protect especially the lowest social classes and marginalized groups of society, which are overrepresented in the death tolls of climate hazards aftermaths due to their vulnerable livelihoods, often characterized by bad infrastructure and based on natural resources. The displacement of people due to climatic circumstances involves threats to minority groups which are already victims of violence and discrimination: more heterogeneous urban areas should be an incentive for the peaceful coexistence of different religions and ethnicities. Finally, women must be assured of well-functioning services directly addressing their needs, such as protection from gender violence, prevention of child marriage and human trafficking, and gynaecological and obstetrical health services.

In conclusion, while big steps forward have been taken in terms of scientific research about climate change and the policymakers' answers to it, a lot still has to be accomplished to secure our societies a prosperous future. Developing countries such as Pakistan, Bangladesh and India have shown their willingness to lower their emissions and implement better tools for mitigation and adaptation, as well as fastening their green transition, however, the burden of buffering the disastrous consequences of climate change should not be left to those countries which suffer the most from them, but it should rely more upon developed countries, which for a long time have contributed massively to GHG emissions, and should therefore be held accountable by lowering their emissions and providing aid to those most affected countries, complying with the promises made under the Paris agreement.

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