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How Real Is Climate Change? Public Perception in Central Asia, Caucasus Region and Eastern Europe

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“How Real Is Climate Change? Public Perception in Central Asia, Caucasus Region and Eastern Europe”

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Abstract

The development of appropriate climate change makes people perceive it in a certain way, and is critical to formulating appropriate environmental policies and environmental education campaigns. In this article, the authors discuss the perception of climate change in four Central Asian countries — namely, the Kyrgyz Republic, Kazakhstan, Tajikistan, and Uzbekistan — as well as the Caucasus region and Eastern Europe.

Introduction

Climate change is no longer a spectre of the future because it is experienced by millions of people worldwide. Historically, the Central Asian, Eastern European, and Caucasus regions have been vulnerable to the effects of climate change (Nekrasova, Tytar et al. 2021, Beridze, Sękiewicz et al. 2023, Tashilova, Ashabokov et al. 2023). It is evident that perceptions and beliefs about the reality of climate change vary significantly among countries and sectors. The region has been experiencing unprecedented climate change issues that require urgent actions from both state authorities and citizens (Artikova, Egamberdiev et al. 2025). For example, drought, land degradation, and increasing temperature are apparent (Robinson 2016, Jiang, Guli-Jiapaer et al. 2017, Fallah, Didovets et al. 2024), particularly increasing vulnerability because of poor adaptive capacity in Eastern Europe and Central Asia (Fay, Block et al. 2010, Xenarios, Gafurov et al. 2019). However, most of the existing literature on climate change discussions voids analysing public perception, particularly from the context of Central Asia, Caucasus Region, and Eastern Europe (Vakulchuk, Daloz et al. 2023, Khamidov and Egamberdiev 2025). This limitation is also reflected in studies analysing adaption mechanisms to climate change in the region (Saidaliyeva, Muccione et al. 2024). The dataset used in the analysis was obtained from the Life in Transition Survey IV (2024), offered by the European Bank for Reconstruction and Development (EBRD) (EBRD 2025). It discusses country-wise patterns in the levels of belief and provides a more specific examination of how gender influences environmental consciousness.

Regional and Environmental Context

Central Asia's geography is predominantly arid and semi-arid, making it extremely vulnerable to environmental change (Yu, Pi et al. 2019). In addition, the region has been experiencing unprecedented climate change consequences due to the interaction between society and environment (Lioubimtseva and Henebry 2009). For example, recent shifts in social frameworks and resource management methods, together with local climate change, have raised significant environmental issues. The Aral Sea has shrunk by nearly 30% over the last two decades, and the average annual flow in the region's two primary rivers, the Amu Darya and Syr Darya, has been significantly reduced, resulting from overdraws along their paths from increased irrigation purposes and industrial use, soil salinisation issues (Ivanov, Chub et al. 1996, Ahrorov, Murtazaev et al. 2012, Bao, Yu et al. 2024). Moreover, increased evaporation at the surface reduces the supply of water to the region, and, as a consequence, the local financial system and rural livelihood have been significantly harmed (Qi and Kulmatov 2008, Hermans, Djanibekov et al. 2025). The findings also confirmed that unprecedented changes in the Aral Sea are mostly due to human activities than climate change factors (Duan, Afzal et al. 2024).

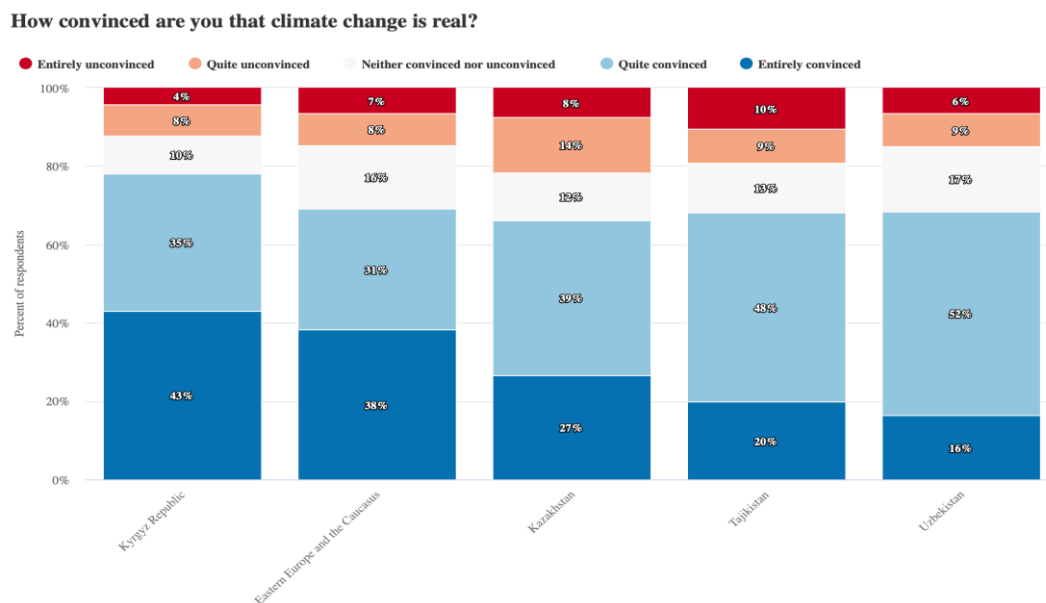
Sensitivity to climate change, along with additional hazards, is a crucial set of relationships between society and nature. The republics of Central Asia, as economy in transition resulting from the collapse of the USSR, are particularly susceptible due to (1) their geographical location (dominated by mild the deserts and semi-deserts), (2) compared underdevelopment as a consequence of an economic emphasis on monoculture exports of agriculture prior to 1991, and (3) shocking economic, social, and organisational disruptions. Aridity is anticipated to rise over Central Asia, particularly in the western regions of Turkmenistan, Uzbekistan, and Kazakhstan. Temperature rises are expected to be especially significant in the summer and autumn, coupled with reductions in rainfall (Lioubimtseva and Henebry 2009). Such global environmental changes in the region have introduced several socio-economic challenges, thereby increasing risks to the survival of the livelihood (Sehring and Giese 2011).

The second edition of the Caucasus Environment Outlook (CEO-2), published in November 2024, updates the previous analysis of the major environmental issues facing the Caucasus region-surrounding Armenia, Azerbaijan, Georgia, Iran, Russia and Turkey (UNEP 2024). The report highlights the ecological vitality of the area, while also cautioning against

severe environmental problems. One of the most serious threats is climate change, which is primarily manifested in the decline of freshwater resources due to the melting of glaciers, changes in rainfall patterns, and increased droughts. Such alterations pose threats to farmers, the environment, and the population. Loss of biodiversity is yet another pressing concern, as the unique flora and fauna are being destroyed rapidly due to urbanization, deforestation, and the loss of habitat promoted by the pursuit of a higher quality of life. The report makes a strong appeal for action, since many of the species are endangered. CEO-2 is not only considered a diagnosis of the current environment but also an overall plan for sustainable development and demands concerted actions toward preserving the nature background and providing sustainable development in the Caucasus.

Perception of Climate Change

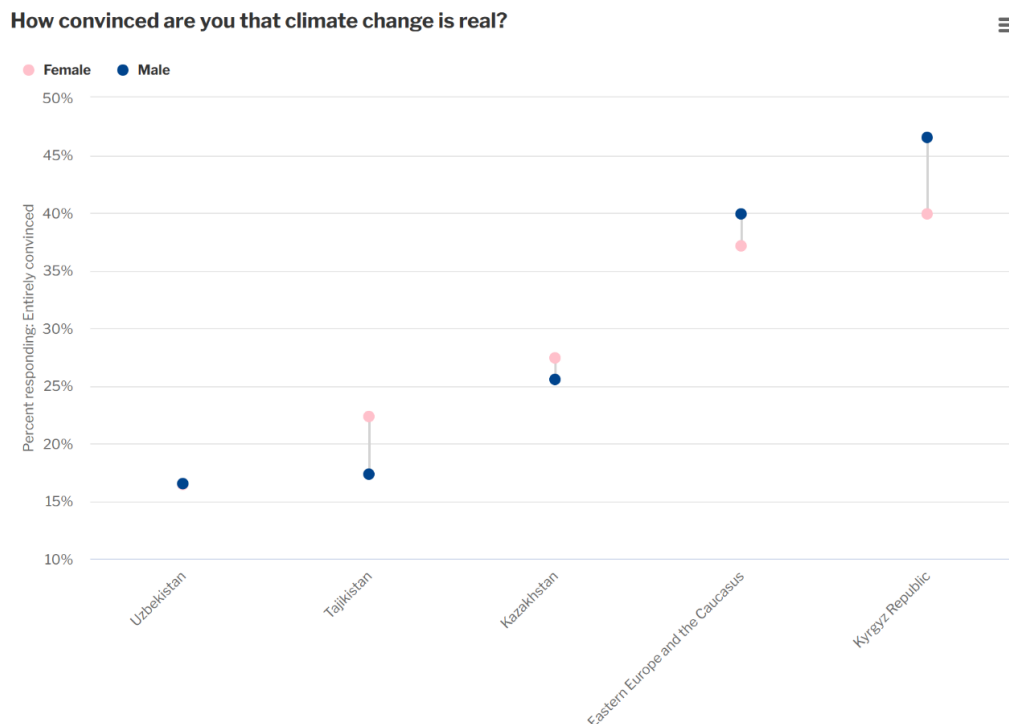
The chart presents the figures from the Life in Transition Survey IV (2024) observing the conviction of people that climate change is in existence in five of the regions, including the Kyrgyz Republic, Eastern Europe and the Caucasus, Kazakhstan, Tajikistan, and Uzbekistan. The Kyrgyz Republic is the most convincing (43% fully convinced), with Eastern Europe and the Caucasus placed second (38% convinced). Such strong beliefs in climate change are observed in the current group, as 31 percent are certain of its existence, whereas 7 percent are not convinced at all.



Source: Life in Transition Survey IV. All statistics are derived using survey weights. Please cite the tool as: EBRD (2024). LITS IV Visualizer (version 1.0.3). European Bank for Reconstruction and Development. Available at: <https://www.lits-visualizer.ebrd.com>. Accessed 2025-07-02.

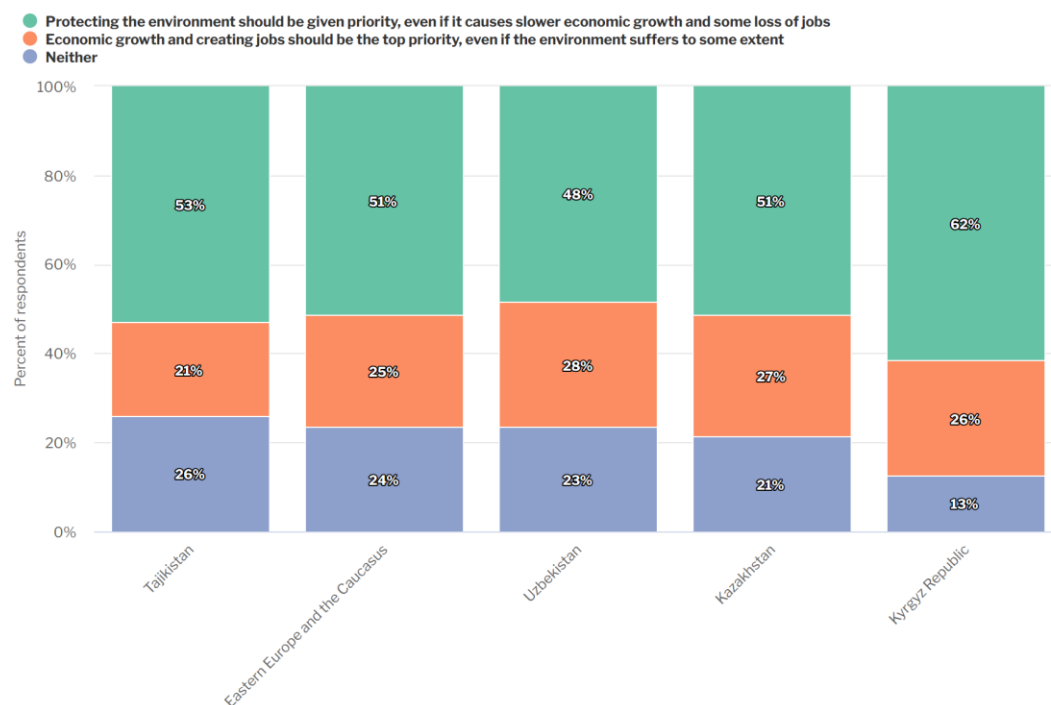
Scepticism is more apparent in Kazakhstan, where there is a total of 22% of those who are yet to be convinced and only 27% percentage who are convinced straight out. Moderate conviction: in both Tajikistan and Uzbekistan, the percentage of the fairly convinced is also large (48 and 52 percent, respectively), but the fully convinced remains modest (only 20 and 16 percent of respondents, respectively). This result might be due to air pollution, rising temperature, and natural disasters in the region (Khamidov and Egamberdiev 2025). On the whole, the chart reflects strong faith in climate change at the regional level, but confidence and doubt vary among some regions, especially in Central Asia. The findings align with the discussions on the perception of climate change in Central Asia (Khamidov and Egamberdiev 2025).

The graph indicates how persuaded men and women in Central Asian countries and Eastern Europe are that climate change is true. The vertical axis records the percentage of people who are completely convinced, and the horizontal axis shows the list of countries or regions. On average, the three countries hold a strongly held view, with none attaining a score of 50%. Of the five groups, the Uzbekistan reporting group indicates the lowest confidence, with less than 20% of the men and women highly convinced.



A small gender gap can also be found in Tajikistan, but here women are more convinced (approximately 22%) than men (approximately 17%). In Kazakhstan, women also lead men, but only slightly, as the rates are in the mid-20 percent range. In Eastern Europe and the Caucasus, conviction is reported by almost 40% of women and close to 40% of men. The Kyrgyz Republic is the country that reports the most positive outcomes, particularly on the male side, as nearly 47% of male respondents are absolutely certain of this, compared to approximately 40% of females. The difference in the perception of men and women in the region might be due to the limited availability of resources to women and prevailing cultural complexity (Kovaleva, Leal Filho et al. 2023). A certain tendency can be observed: men and women from Eastern Europe are both more convincing than those from other regions. There are gender differences which, however, are not consistent; in some countries, women are born out of conviction, whereas it is the men in other countries.

Environment vs. economic growth

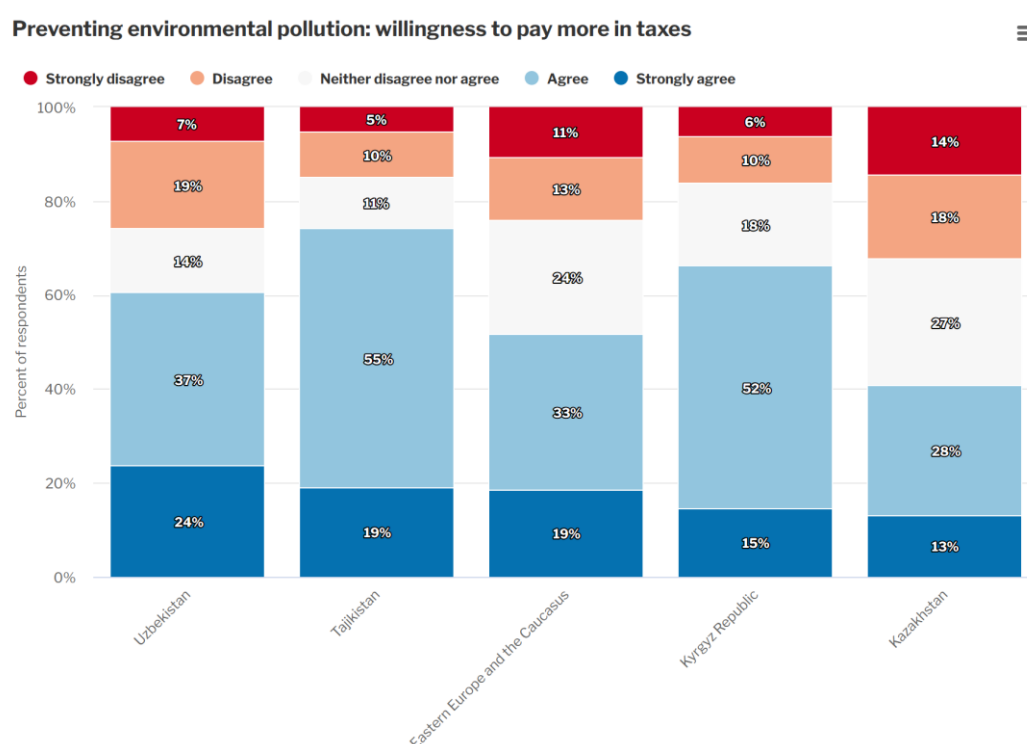


The chart examines the balance between environmental protection and economic development, presenting, in several regions, the answers that respondents provide to the priorities offered between these two competing goals. In general, opinions vary, with the preponderance supporting environmental preservation in all the countries. The Kyrgyz Republic represents the largest percentage among the regions, with 62% of the respondents supporting the idea of environmental protection. This positive attitude towards environmental protection highlights the importance of integrating environmental considerations into the country's economic development. For example, the findings by Turdiev and Nizamiev (2024) confirmed that Kyrgyzstan has the potential to develop a green economy through its tourism sector. In this case, the country has initiated significant sustainable development programs aimed at fostering an innovation-based green economy (Generalov and Generalova-Kutuzova 2021).

Tajikistan is quite supportive (53%), with similar results in Eastern Europe and the Caucasus (51%) and Kazakhstan (51%) represent similar results. Uzbekistan has the lowest statistic in terms of priority in the environment at 48%; however, still almost half of the respondents lean towards this issue. Conversely, between one-fifth and slightly over a quarter of the respondents in both countries prioritized economic growth. The Republics of Uzbekistan and Kazakhstan are slightly higher, at 28% and 27%, respectively, and Tajikistan is the lowest,

at 21%. Interestingly, another large measure of the population, mainly in Tajikistan (26%) and Eastern Europe and the Caucasus (24%), did not choose one and not the other, pointing to ambivalence or aiming at balance. This clear pattern might be due to the difference in welfare, economic growth, consumption, environment components, in which each country has own path of development (Pogharnitskaya, Matyugina et al. 2019).

Generally, economic concerns still matter; however, the protection of the environment is voted as the highest priority by the majority across these regions.



This chart shows how people in the five regions felt about the idea of paying increased taxes to ensure that the environment is not polluted. The results are on a scale of strong agreement to strong disagreement, which helps us understand how eager individuals are to make individual efforts towards solving environmental problems. The prevalence of views in support of higher taxes is observed in all regions. In Uzbekistan, the percentage of those who either agree (37%) or strongly agree (24%) is sufficient to suggest that a majority of citizens appreciate the specification of their personal finances to save the environment. A higher level of willingness to contribute in Uzbekistan and Tajikistan might be due to increased level of employment (Rahmati, Mortazavi et al. 2023). From another perspective, a higher level of willingness to contribute is reflected in the green transition in Uzbekistan, as all other countries in the region have experienced an increase in carbon emissions (Filipović, Orlov et al. 2024).

Tajikistan has the highest overall support, at 74%, with the majority falling within the 'agree' category (55%). In Eastern Europe and the Caucasus, there is also relatively high support, with 52% of respondents saying they agreed and 19% strongly agreeing; however, a significant group of 24% ascribed themselves to holding no opinion. The differences between Central Asian countries and the Eastern and Caucasus regions can be explained by the knowledge and experience of local air quality, environmental attitudes, and institutional knowledge (Agibayeva, Tleuken et al. 2024). In the Kyrgyz Republic, support for the idea reaches 67%, with 52% agreeing and 15% strongly agreeing, and the remaining 18% expressing neutrality. This higher level of willingness to contribute in Kyrgyzstan may be due to rapidly growing populations and limited access to nature in urban areas (Sabyrbekov, Dallimer et al. 2020). The performance levels are at the lowest in Kazakhstan where only 41% of the population are supportive and 27 % and 32 % respectively remain neutral and disagree. The general pattern is that most regions are willing to pay increased taxes, with higher rates in Tajikistan and Uzbekistan. Kazakhstan, however, proves to be less willing, which may indicate that economic or environmental concerns are given a lower priority in terms of taxation.

From the graph, a noticeable pattern is that the willingness to contribute in Central Asia is noticeably higher than in Eastern Europe and the Caucasus (only 52% of respondents support the contribution in the region). One possible explanation for this difference could be the values and beliefs in the region, as Central Asian countries place more responsibility on collective agents to mitigate the consequences of climate change (Kwiatkowska, Mosanya et al. 2025). Moreover, the findings confirmed that the regions have unique contexts differentiating the perception of climate change across the regions (Lee, Markowitz et al. 2015).

Factors shaping perceptions of climate change

1. The Economics of Political Interest and the Development Requirements

In Central Asia, there is a strong need to boost economic growth and create employment opportunities. Populations tend to prioritize short-term, basic livelihoods and economic stability over environmental sustainability. As seen in the survey results, a significant number of respondents in these areas remain inclined towards economic growth, even at the expense of environmental degradation. This economic dependence, particularly on natural resource extraction (oil, gas, and mining in Kazakhstan and Uzbekistan), is a determinant of climate change scepticism or a lack of urgency.

2. Environmental Vulnerability and Resilience

Perceptions of climate change are closely tied to personal experience. Countries like Kyrgyzstan and Tajikistan, which rely on agriculture (WB 2025) and are vulnerable to glacial thaw, flooding, and water shortage, would be better served by acknowledging the issue of climate risks. Rural communities that are heavily reliant on natural resources are more likely to accept the reality of climate change, as they are more directly affected, whereas urban communities are less affected. In addition to this, household and farm resilience in Central Asia should be strengthened so that they are able to adapt to changes or absorb environmental shocks (Egamberdiev, Bobojonov et al. 2023, Egamberdiev, Bobojonov et al. 2024), highlighting the importance of resilience in the fight against climate change (Bossuyt 2023).

3. Politico-institutional Background

Governments have an immense influence on the way people think. Conviction rates regarding climate change are related to greater integration with European Union positions. Media and NGOs also play roles in promoting climate change awareness. The policies of Central Asian governments accentuate on the importance of climate discourses. At the same time, countries favour economic programs; however, the trade-off between economic growth and environmental sustainability should always be considered. This approach affects the seriousness with which people take the problem.

4. Education and Public Awareness

The degrees of environmental instruction and information programs differ greatly. In countries with better education and international linkages, the citizens have a higher degree of faith in

climate science. In contrast, poor environmental literacy can lead to uncertainty or even scepticism. In addition, further actions should enhance public awareness by informing citizens of the region (Pobedinsky and Shestak 2020).

5. Research and Development

The extent of research and development aimed at improving and encouraging human and environmental interactions should be at the centre of the intervention agenda. Findings by Liu, Liu et al. (2020) also concluded that the significance of research and development should be integrated into adaptation mechanisms in the region.

Climate Actions and Education Implications

The results of the Life in Transition Survey imply a particular importance of specific climate actions and raising climate awareness in Central Asia, Eastern Europe, and the Caucasus. Policymakers should be aware of the economic issues that often overshadow environmental agendas. Due to discrepancies in the perceptions of costs and benefits, governments should support policies so as to establish a bond between climate action and economic profit (investment in renewable energy and in greener farming). The synthesis of local adaptation measures, such as improved water management and risk-decreasing projects, can make regions already at risk of global temperature increase more resilient to the effects of climate change, as seen in countries like Kyrgyzstan and Tajikistan.

Another useful instrument is the education or environmental literacy of citizens, which can be supported through education campaigns in the press, school programs, and community or research outreach. Alliances with NGOs, higher education institutions, and international organizations should also help make citizens aware of the science behind climate change and the shared accountability and responsibility to act. Some of the suggestions are as follows: (1) making climate education a part of the school curriculum nationally, (2) instituting incentive policies to encourage sustainable practice, and (3) increasing regional collaboration across borders on water, agriculture, and energy in order to reflect on the interdependence of issues at the regional level.

Conclusion

Attitudes towards climate change in Central Asia, Eastern Europe, and the Caucasus are shaped by economic interests, environmental awareness and education, as well as political support. Although awareness of the climate crisis is present in the minds of many citizens, there remains doubt about the aspects of the region where economic development is a primary concern. This dilemma highlights the importance of inclusive strategies that should incorporate green agendas into the national development agenda. The way to go is to associate climate action with the socio-economic benefits. Higher education systems, increased environmental interventions, and community-level participation will enhance the interface between awareness and action. More importantly, governments and institutions should facilitate regional integration, as the issues of water scarcity, glacier melting, and biodiversity loss are no longer solely national matters to contend with. These regions have the opportunity to align public perception and policy action by adopting a shift in mindset that views climate change as an integral aspect of shared development. The effectiveness of climate action in the end is dependent on the ideals of having an empowered population that is informed, yet arguably activated towards achieving sustainable responses to climate change

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