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THE ROLE OF CULTURE AND TRADITIONAL KNOWLEDGE IN CLIMATE CHANGE: INSIGHTS FROM JAMMU AND KASHMIR

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Abstract

Indigenous peoples furnish substitute lore for climate variation and change from their thriving proficiency and resource utilization mechanism. This research explores how culture and traditional knowledge can be exerted to surveil and respond to changing environmental circumstances. Jammu and Kashmir is known for its diverse ethnic groups throughout the region, forming part of the natural and cultural domain of unique scenery. The tribes in Jammu and Kashmir bring with them the traditional art and culture that sets this region apart from others. The lavish culture manifested by UT fascinates visitors. Jammu and Kashmir is avowed to be the 'Crown of India' and is regarded as a 'heaven on earth' due to its pristine elegance. The traditions and customs of the primitive era influence the ethnic lifestyle. External forces have not so far influenced the majority of them. The modest and elegant lifestyle prompts visitor's curiosity. This research demonstrates how Indigenous communities accumulate extensive information about their surroundings to shape their utilization of resources, as well as from beliefs and cultural values associated with this knowledge. This study emphasizes the importance of culture and traditional knowledge in shaping the perspectives on environmental change in Jammu and Kashmir among indigenous people, impacting local decisions on adapting to climate change.

Keywords: Culture, Indigenous people, Traditional knowledge, Jammu and Kashmir

Introduction

It is now commonly acknowledged that the Earth experiences climate fluctuations due to both natural processes and human actions. According to contemporary consumption, "climate change" frequently encompasses a rise in the average surface air temperature, also referred to as "global warming". The climate change phenomenon will inevitably lead to severe catastrophic impacts. These effects include melting glaciers, sea levels elevating, and more frequent and severe climate extremes. Many researchers believe that climate change will pose such a serious threat that it could endanger the survival of humans on Earth. Strategies to address global warming are actions taken to decrease the susceptibility of social and biological systems to the impacts of climate change. Although emissions may reach a plateau soon, the effects of climate change will endure for a long time and strategies will require modification.

Strategies to address climate change are especially crucial in developing nations, as they are projected to experience the worst effects of climate change. This indicates that the distribution of adaptive capacity varies among regions and populations, with developing countries typically having lower adaptive capacity. The ability to adapt is strongly connected to the progress of society and economy. Adapting to climate change is expected to incur annual economic costs amounting to billions of dollars in the upcoming decades, with the specific sum required remaining uncertain. Contributing nations have pledged $100 billion annually through the

Green Climate Fund to aid developing nations cope with climate change by 2020. Human activity is leading to a rise in greenhouse gas emissions, which in turn is causing the Earth's surface to warm up more, resulting in various anticipated adverse effects. Up until now, previous worldwide initiatives to tackle issues linked to global warming appear to emphasize mitigation to decrease and ultimately stabilize. Keeping emissions controls intact in developed countries is a challenging task, especially during periods of robust global economic growth. Global energy consumption is predicted to increase. Due to insufficient advancements and challenging circumstances in lowering atmospheric greenhouse gas emissions, adaptation is increasingly becoming a more practical approach to minimizing susceptibility to the anticipated adverse effects of global warming.

Additionally, following the unsuccessful climate talks, it is clear that we must not rely solely on mitigation efforts. Nevertheless, to ensure our shared future, we need to incorporate both mitigation and adaptation in combating climate change. Nevertheless, the combination of adjustment and prevention is not a completely novel concept globally. There are numerous regions in the world where people continue to reside in harmony with nature, without causing any harm to it. They have acquired specific abilities to deal with sporadic natural increases. The ability to balance nature's power with human desire is referred to as traditional knowledge.

"Ecosystems have a strong influence on human culture, and altering them can greatly affect cultural identity and social stability. Different aspects such as human cultures, knowledge systems, religion, cultural heritage values, social interaction, and related civic amenity services (such as aesthetic pleasure, artistic and spiritual contentment, and intellectual progress) are included. Culture has consistently been impacted by the environment it is rooted in, reflecting the ecosystem's nature and conditions. Simultaneously, humans have consistently altered and moulded it. The swift decline of culturally momentous ecosystems and landscapes is causing social upheaval and marginalization in various regions globally." (Millennium Ecosystem Assessment, 2005:457)

"Cultural services and values are nowadays undervalued in landscape planning and management. These fields could benefit from a better understanding of the method by which societies manipulate ecosystems and then combine this with cultural, spiritual, and religious belief systems. This realization is reflected in the emphasis placed by many recognized international organizations such as UNEP (United Nations Environment Programme) UNESCO (United Nations Educational, Scientific and Cultural Organization) FAO (Food and Agricultural Organization) IUCN (International Union for Conservation of Nature) and WWF (World Wildlife Fund, Inc.) on "cultural landscapes", "cultural agroecosystems", world heritage sites, and the biosphere reserves. The ecosystem approach acknowledges the significance of a socio-ecological systems approach, and policies should allow for the involvement of local communities in natural resource management within the cultural landscape, incorporating local knowledge and institutions."

"Places and regions are products of human history, resulting from historical interactions within groups as they utilize and modify the natural terrain. They represent the history, identity, and values of the people who live there. The cultural concept of place is necessary for the quality of life of its inhabitants. Spatial planning and town planning are that is, cultural acts in that they recognize, invent and use the natural and cultural resources in line with society's aspirations for the future." (UCLG, 2015:12)

Methodological considerations

To robustly investigate the role of culture and traditional knowledge in climate change a keyword-based examination of grey literature, peer-reviewed literature, and project websites was carried out. Search terms include Traditional Environmental Knowledge, climate change adaptation, indigenous knowledge, Native adaptation, Indigenous cultures, adaptive capability, and resilience. Relevant articles were filtered based on the following criteria: The consequences of climate change on Indigenous peoples, and local climate change adaptation techniques. Then, relevant publications were reviewed to define Traditional Environmental Knowledge, its components, the significance of each aspect in climate change adaptation, and, lastly, how Traditional Environmental Knowledge fosters socio-ecological robustness. Regarding research constraints, this study focuses primarily on the social and environmental consequences of climate change. The other issues are not within the parameters of this research. This study was mainly focused on the Indigenous communities of Jammu and Kashmir. The main reason behind the selection of these Indigenous people is their connection with nature, despite all these modernisation and technical advancements these people still prefer the lap of nature. Their livelihood is deeply rooted in nature. This research was carried out to understand how the recent climate changes have influenced the livelihood patterns of the Indigenous communities of Jammu and Kashmir.

Traditional environmental knowledge

"Recognizing the importance of culture for sustainable development means exploring the connections between culture and the environment. Culture influences us to understand the environment and our relationship to it at a deep level. Care for future generations' well-being is already explicitly environmental; it should also be cultural." (UCLG, 2015:24)

Humans modify the ecosystems around them through cultural practices, values, and visions world. Human activities depend on and use "natural" spaces and biological resources otherwise they could disappear, such as agricultural heritage. Spaces and resources are carriers of culture partly as a reminder of history, practical knowledge, and identity (e.g. food heritage); contribute to aesthetic values (e.g. urban or rural landscape); and condition capacity for endurance. People's knowledge of the surrounding ecosystems is of immense value. Their practices have shaped the urban and rural landscape for centuries. This traditional knowledge should be recognized and used to better understand how cultures and ecosystems communicate and enter into dialogue with academic knowledge, especially in the context of regional development projects that may have an impact on the ecosystem. These forms of knowledge must be developed and shared to promote ecological thinking and values of sustainable development. Nature and culture developed side by side and are constantly creating an evolving balance. Cultural diversity and biological diversity are therefore closely related."

According to the World Intellectual Property Organization, traditional knowledge systems are "knowledge that is created, preserved and transmitted in a traditional and intergenerational context, which preserves and transmits it between generations and is an integral part of the cultural identity of the community that is recognised as the holder of the knowledge". In this way, traditional knowledge is bound to a single culture or society, acquired through many years of trial and error experience of the community. Generally, it is widely accepted that traditional knowledge represents an alternative way of thinking that has evolved due to the constant awareness of the requirement to protect oneself and one's family from changes in the local climate. In today's society where science plays a key role, many people believe that oral knowledge is unscientific, which is not true.

Traditional knowledge is also as scientific as any other form of contemporary knowledge because it developed on the same principles of experimentation and trial-and-error methods that are widely used in the sciences (especially the physical sciences). Historically, traditional people are prominently identified as particularly vulnerable to climate change. Many traditional territories are located in areas where the impacts of global warming are expected to be both early and severe. However, traditional people have learned the art of adapting to any changes in their climate and this knowledge or skills can help the current generation to combat the current form of climate variability. So, given the urgency to cope with climate change, the present study is an attempt to discover the traditional skills prevalent among the communities of Jammu and Kashmir that can help build a future course of action for the present generation.

The whole concept of civilization began when humans first appeared on Earth, started observing their surroundings, and tried to understand them based on their cognitive abilities and knowledge. Knowledge Systems have always been present in some way or another. It was once modular in ancient times and now is extensively compartmentalized in modern times. Labelling a knowledge system as traditional or outdated would be unfairly disregarding the historical significance and practicality it once held. The progress of a system or structure is typically assessed within a particular cultural and historical framework, within a specific time-space continuum in which it is situated. The Gujjars and Bakarwals are a community that has a deep connection with nature, their loyalty and connection to the environment is ancient, and they possess valuable historical and cultural legacies.

Gujjars and Bakarwals have experienced long-standing marginalization in both the socioeconomic and political aspects. Despite being marginalized, their contributions to the history, culture, and knowledge of Jammu and Kashmir have been significant. Regrettably, their input is frequently overlooked, devalued, and downplayed in the face of the prevailing culture and popular narratives. When discussing tradition versus modernity, it is common to make comparisons and distinctions between the two. They are frequently stigmatised for being seen as too traditional and outdated. Nevertheless, this argument is flawed and biased and requires a reassessment of their significant role in society and the fabrication of knowledge. Nevertheless, being marginalized does not mean they have nothing valuable to contribute to the creation of diverse knowledge for society. Gujjars and Bakarwals, the indigenous people of Jammu and Kashmir, continue to maintain their nomadic way of life despite recent developments. Yet, they have consistently been the primary guardians of important traditional and native knowledge regarding biodiversity, forest farming, medicinal plants, non-traditional cuisine, and the native environment of Jammu and Kashmir. As locals, they can assist in finding and recognizing plants linked to different ethnobotanical purposes, aiding researchers in conducting phytochemical research. In addition to their abundant traditional knowledge of biodiversity, they possess unique tribal cultural expressions that are diminishing and in need of instant perpetuation.

The Gujjar and Bakarwal communities have made numerous attempts to preserve the environment. The community maintains a delicate equilibrium and equation between the forest and its usage. In the Union Territory of Jammu and Kashmir, particularly Gujjars have assisted the Forest Department in identifying and removing illegal encroachments, as well as demarcating important forest zones. These tribes stay updated on forest activities by constantly searching for food for their livestock in the deeper parts of the forests, making them more knowledgeable about the area and its state. They have alerted authorities to the overcutting of forest trees and supported conservation initiatives. Moreover, they serve as guides in leading people to inhabitable areas and important forest resources while travelling along these routes.

Two Bakarwal communities, Megh and Mihngh, are famous for their skilled work with wool. Members of these tribal people produce woollen blankets. Furthermore, Bakarwal also crafts Namdas - rough woollen carpets adorned with vibrant floral patterns. They also create smaller blankets, called taru, which can be used as quilts. These quilts have cultural significance as they are traditionally given as wedding presents. Women also intricately embroider these handmade objects are their important cultural heritage and they bring them along when moving to Kashmir.

Gujjar community relies mainly on livestock for raising and production. Livestock is not merely a job for them; instead, it signifies a symbol of status for them. The greater the number of animals a family possesses, the more esteemed they are viewed socially. Yet, the community shows a preference for buffaloes over cattle because these animals are well-suited to the local environment and are strong and resilient. They can endure harsh conditions and produce higher levels of fat in their milk. They use buffalo milk to make Ghee, Butter, Curd, Lassi, Paneer, and Kaladi and sell the remaining milk. They are skilled in both animal rearing and healing. They preserve traditional technical knowledge and utilize natural herbs and shrubs to cure ailments in humans and animals. Using certain naturally occurring plants to treat animals also helps to lessen the financial strain. These customs have been carried down through generations. Despite the modern health facilities available, they continue to rely on their traditional methods of treatment, livestock rearing, and connections with their environment, thus balancing the old ways with the new.

As they are nomadic tribes, Gujjar and Bakarwal have access to a vast range of information regarding various plants and species, including their efficacy and utilization. During the accumulation of knowledge, they transfer it to the next generation. They know how to utilize medicinal herbs. The tribal community uses various forms of herbal preparation, including decoction, oil, paste, juice, powder, and extract, to cure respiratory diseases, gastrointestinal problems, infections, skin problems, diarrhoea, joint pain, dysentery, wounds, etc. They also utilize smoke and raw forms of the preparation.

These communities have been utilizing their traditional veterinary knowledge for generations, using plants to maintain the health and wellness of their livestock. To back up this claim, a thorough ethnobotanical study was carried out in 12 villages in district Poonch from July 2018 to March 2020. The study showed that farmers in the Doda district of Jammu and Kashmir and West's Darjeeling subdivision of Bengal use all parts of the Acorus calamus to manage gastrointestinal problems in sheep, cows, buffalos, and goats. These people also administer Allium cepa bulb powder orally to animals to treat snakebites. In some areas like the Bandipora district of J&K, individuals utilize softballs made from crushed Allium cepa bulbs and salt to treat cattle for anorexia, and cold, and to boost the oestrus cycle in cows. Furthermore, the entire plant is utilized and typically provided as fodder. Additionally, a blend of plant paste and water is administered to the pelvic area as a remedy for oliguria in buffalos, sheep, cows, and goats in Jammu and Kashmir. Some research also recommends using crushed fresh roots to address hoof inflammation, warts, weakness, and abscissions in cows in the area.

Sharma and Kachroo claim that Gujjars, as an ethnic group, possess their ancestral traditional knowledge of herbal medicine. Research in the district of Kishtwar has shown a positive connection between the presence of curative herbs and the occurrence of certain diseases. On the other hand, Swami and Gupta contend that medicinal plants are becoming increasingly significant as valuable bio-resources. Various types of plants are gathered for both eating and healing reasons, such as Kutwol, a wild plant commonly utilized for treating issues with bones and joints. Walnut bark, also called Dandas locally, is utilized for dental hygiene purposes. Chutyad, a wild herb, is utilized for promoting hair growth. Noon chai (Pink tea) is believed to offer numerous medicinal advantages. It aids in lowering stress, and boosting immunity, and is beneficial for pregnant women. Nevertheless, pregnant women typically consume ghee, sheera kadai, semolina sharbat, and eggs as part of their traditional diet. Kehwa or kodi chai is utilized for the remedy of cough, cold, fever, and body pains. Furthermore, the community utilizes rice paste or outer gourd covering as a treatment for mumps, a prevalent condition among children.

The Significant impact of community-based projects to record climate change

Climate projections suggest that impacts are likely to be varied and heterogeneous across India. Some regions will experience more intense rainfall and flood risks, while others will experience less rainfall and drought, including spatial shifts in the pattern of rainfall. The Fifth Assessment Report further highlighted the loss of snow from the snow sheet and hypothesized that current glacier extents are out of balance with current climate conditions, suggesting that glaciers will continue to shrink in the future even without further temperature increases. This has a significant impact not only on the Himalayan ecosystem of the state of Jammu and Kashmir but also on several other areas in India and some areas in Pakistan-occupied Kashmir and beyond.

The global scientific consensus on the unequivocal nature of climate change and its link to increasing concentrations of greenhouse gas emissions is widely established. The regional climate projection indicates that climate variability will be manifested by changes in the frequency, intensity, spatial extent, or duration of weather and climate extremes, including climate and hydrometeorological phenomena. This is likely to pose a greater risk to human life and threaten the sustainability of the economy of several states in India. Indeed, the likely projection of hydrometeorological and geophysical hazards has the potential to derail the current growth strategy and deepen poverty among the vulnerable. The impacts of climate-induced extreme events (such as cloudbursts, enhanced glacier flow, and premature dry and wet days) could lead to loss of lives, livelihoods, property, and infrastructure and affect the state's economic growth and pro-poor initiatives. Due to its profile, climate change is an important issue for the state, as it is currently on a path of carbon-oriented development while being vulnerable to climate change due to a fragile ecosystem. Thus, in the above context, a comprehensive Climate Change Action Plan with an institutional framework to address both adaptation and mitigation concerns has been conceptualized by the Union Territory J&K to enhance climate resilience and resilience of sectors concerning local vulnerability conditions.

Jammu and Kashmir, situated in the delicate Himalayan ecosystem, experiences both natural climatic oscillations and human-driven changes from extensive urbanization that contribute to rising temperatures. The most significant issues the state will face in the upcoming decades are biodiversity loss and water scarcity as a result of climate change. Climate change poses a serious threat to species diversity, habitats, forests, wildlife, fisheries, and water resources in the region. Many wetlands in J&K, which support 20% of the region's known range of biodiversity, are being adversely affected. Climate change, which results in weather changes, is relatively unpredictable but could be important concerning the occurrence of various diseases, such as bird flu. As per the UNEP report, certain regions in the nation display moderate to high levels of vulnerability. INCCA's evaluation suggests that there could be a rise of 5 to 10 days in the average number of rainy days in the Himalayan area by the 2030s, with an increase exceeding 15 days in the eastern Jammu and Kashmir regions. There is a probable increase of 1-2 mm/day in the intensity of precipitation. This is expected to impact certain horticultural crops due to grazing, while livestock is likely to see advantages. The pace of glacier depletion is reported to be shifting due to factors such as winter precipitation, global warming, and human influence. The agricultural sector is most susceptible to being significantly impacted by temperatures, precipitation, and cold waves, causing increased vulnerability. There has been a recent rise in the food production deficit in Jammu and Kashmir. Rain-fed farming will be the most impacted as precipitation levels decline. Horticultural crops like apples have also experienced a decline in both production and actual area covered, largely attributed to a decrease in snowfall. Glacial Lake Outburst Floods (GLOFs) can lead to large-scale landslides and affect food security and thus nutritional health.

Jammu and Kashmir is a region full of mountains that is very vulnerable to the impacts of global warming and climate change. The significant impact of climate change and warming is being felt in Jammu and Kashmir as in worldwide patterns. Over the last couple of months, particularly in July 2022, there has been a rise in cloudbursts and flash floods. Destructive cloudbursts hit Baltal (Sonamarag), Doda, Poonch, Kathua, and many other areas in Jammu and Kashmir resulting in too many deaths, injuries,

and property damage. Some of the traits of climate change in Jammu and Kashmir include unpredictable rainfall, snowfall, and abnormally mild winters. The report states that the temperature in Jammu and Kashmir has risen by 1.2 degrees Celsius on average compared to the global increase of 0.8 to 0.9 degrees Celsius in the past century. Rising temperatures cause glaciers to melt and increase rainfall, potentially they are causing disaster in the state. The signs of climate change in Jammu and Kashmir include premature snowfall, winter heat waves, sudden downpours, and flash floods in the summer, all causing noticeable impacts in the Kashmir Valley. The initial sign of global warming in Jammu and Kashmir was a severe cloudburst flood in 2014. A report by the State Disaster Management Authority reveals that 300 individuals have lost their lives in Jammu and Kashmir due to various flash floods and cloudbursts since 2010. In 2022 alone, cloudbursts in Jammu and Kashmir killed nearly 40 people and injured many. The climate change toll is mounting and we should act to stop this growing anger. The unexpected increase in temperature has impacted life in Kashmir in multiple ways. Kashmir's monsoon season has caused significant damage to agricultural fields due to the persistent dry conditions. Valley farmers were cynical about being able to harvest any crops last year due to the lack of rainfall. The IMD reported that the valley experienced an 80% rainfall shortage the previous year due to the lack of significant western disturbances or Mediterranean moisture. Because of the arid climate and lack of water, irrigated rice, wheat, and mustard output may decrease by 6%, 4%, and 4% respectively. The food production deficit in Kashmir has increased to 4%, with vegetable production at a deficit of 3%, and oilseed production at 69%. Kashmir, once anticipated to yield large quantities of rice and wheat, is currently yielding limited amounts of these grains. If climate change persists at its current rate, Kashmir will soon have to import all its food from nearby states.

Jammu and Kashmir is the sole state in India with a historical background of saffron production for commercial purposes in the valley. The Kashmir Agriculture Department reports a 65% decrease in production over the last 20 years, dropping from 16 metric tons to 5.6 metric tons, as a result of inadequate irrigation and the impacts of climate change. Additionally, the arid weather will significantly impact the tourism sector in Kashmir. The lack of snow will lead to the shutdown of winter sports. Gulmarg, a renowned tourist destination in Kashmir, lures visitors globally; however, the absence of snow leads to an empty resort. The Thajwas Glacier, also called the Hidden Jewel of Kashmir, is melting quickly and is a popular tourist spot in Sonamarg. Two decades ago, this glacier covered a vast expanse and visitors could easily view it with just a short stroll. However, they now have to trek for kilometres to visit the glacier. Thirdly, it leads to the disappearance of both domestic and wild animals as a result of increasing temperatures impacting vegetation, grazing lands, food supplies, water availability, and other factors. Ecosystems may become inhospitable to certain animals, leading them to migrate beyond their typical ranges in search of food and suitable habitats, resulting in the death of other animals. Urbanization in the area has quickly expanded. Urban infrastructure development has surpassed boundaries in recent decades. The utilization of Jhelum floodplains for urban settlements indicates the level of urbanization.

Climate change is greatly impacting the traditional practice of transhumance for these people, as the timing and availability of pasture land are disrupted by changes in weather patterns, affecting their movement of livestock between high and low-altitude grazing areas. Increasing temperatures and shifting precipitation patterns result in decreased fodder supply for the livestock, impacting their well-being and output. Because of climate change, Gujjar and Bakarwals frequently need to move to higher elevations sooner to find grazing areas before the snow melts too quickly.

These vulnerable communities are especially susceptible to severe weather occurrences such as heavy snowfall or droughts, which can have a significant effect on their means of living. By carefully monitoring alterations in their surroundings, their first-hand experiences and expertise can offer a valuable understanding of the impacts of climate change in the Himalayan area. The community is becoming increasingly worried about shifts in recent weather patterns in those regions where the seasonal movement of livestock takes place. Contrasts between the traditional weather forecasting methods relied on by Indigenous communities in history indicate a shared agreement within transhumance communities that a shift has taken place. All the communities that were visited agreed about the variations in temperature and rainfall levels.

Nevertheless, some individuals think that these alterations are a result of God's retribution for the wrongdoings and offences of people. In general, climate change is currently taking place and is affecting many people in the state, especially transhumance communities, who are more at risk due to their reliance on livestock production which is greatly affected by weather. Shifts in rainfall levels also affect water sources and availability, as well as livestock productivity. This has resulted in heightened susceptibility to food and water shortages, affecting livestock directly and prompting the community to relocate to higher summer pastures in the Kashmir valley. The majority of older individuals in the community view this phenomenon as a problem resulting from the growing number of sins being committed by people. It is known as Kalyug, where people are consumed by greed, lack faith in God, and prioritize material possessions. They have ceased their worship activities as well.

Capital investment has increased in India because of the growth and modernization of industries. In recent years, there has been growth in the travel and tourism industry, transportation industry, as well as textile and construction industry. It serves as a powerful tool for economic development, however, it also has a significant impact on our environment which affects us in multiple ways.

According to Ground Report, in 2022, Kashmir experienced a severe heat wave that led to a shift in the groundwater levels. Initially, there was a noticeable drop, leading to a drought-like scenario in both North and South Kashmir. This was then followed by ongoing rainfalls, resulting in sudden floods. The unusual snowfall persisted in the rural areas and higher elevations of the Kashmir valley. The unexpected snowfall caused anxiety among nomadic tribes. The Gujjar and the Bakarwals were overwhelmed by the severe cold and snow-covered meadows, resulting in livestock casualties. Due to their nomadic lifestyle, Gujjars and Bakarwals do not have a permanent home of their own. During their migration, they reside in temporary shelters such as tents or sheds.

The nomads may not understand the terminology of climate change, but they have a sense of awareness about the climate due to their strong connection to nature. These nomadic herding communities have been observing the recent shifts in climate

because they are directly affected by them. In the past few years, their traditional economy based on livestock has faced unprecedented challenges due to urbanization and climate disasters. Due to growing urbanization, forest areas that once served as temporary shelters for tribal communities and grazing land for their animals are now being used for constructing government buildings and new projects. The traditional homes of Gujjar-Bakarwals in the forests are at risk due to changes in land use, as they were slow to establish ownership of private property. These wandering tribal people construct temporary shelters and dwellings close to forested regions where their animals can thrive, having no trouble finding food and remaining untouched by urban development.

The continuous decline in forest area in Kashmir, caused by both legal and illegal logging as well as human settlements in forests, is leading to more frequent interactions between humans and animals (Pervaiz: 2009). The joint impact of deforestation and water mismanagement has led to soil erosion, causing the frequent flash floods observed in Jammu and Kashmir (Crook: 1998). Political tension and military conflict between India and Pakistan in the region are both caused by and lead to environmental stress, as they struggle to control the natural resources of Jammu and Kashmir through fighting. If the conflict persists, these resources will become more limited (Edie: 2002). Across the globe, individuals are forced to leave their homes as the military seizes land (including bodies of water) for various purposes like bases, target ranges, weapon storage, and training areas. As a result, residents frequently face challenges in cultivating essential crops, particularly near the boundary line. They are increasingly relying on wild foods like bush meat and wild food plants for their survival. Simultaneously, displaced individuals typically gather firewood, edible plants, and other resources from nature in the new locations they have migrated to. This level of large-scale exploitation may not be sustainable, even in the short run. The scenario could worsen if these individuals do not have a good understanding of the best ways to manage resources in the area. Furthermore, when refugees go back to their native lands, they frequently depend significantly on natural resources before they can restore their usual way of making a living, such as farming. Additionally, in both Indian Kashmir and Azad Kashmir, humanitarian organizations frequently utilize large quantities of local wood for building projects (Shambaugh et al.: 2001). Timber production can be greatly impacted by armed conflict in various ways. The introduction of new roads in isolated forest regions allows for the growth of the illegal bush meat trade; meanwhile, logging practices frequently lower biodiversity and greatly affect the well-being of impoverished communities reliant on natural resources (Saundry: 2008).

Many said that the 2014 Kashmir floods were caused by the engulfment of flood plains by such unplanned construction. The rate of urbanization in Jammu and Kashmir is currently 27.3 percent. Tourism has affected the ecology in a way. The Jammu and Kashmir region is regularly portrayed by the state as the most desirable tourist destination. This display is mainly based on a photograph of a water landscape. The tourism industry's impact on land has caused a decrease in water resources due to mass pressure. Along with this, air and soil pollution has largely degraded the ecosystem of the region.

Conclusion

In conclusion, given the lethal impact of global warming and its human-induced origins, everyone must take collective responsibility for preserving the environment. If this is not done, it could result in numerous catastrophic events that will seriously endanger the welfare of both present and future individuals. Climate change is seen as a significant danger to the future of the Earth. Modernization has been pinpointed as the primary reason for climate change. The world's nutritional and food security is anticipated to be impacted by climate change. The pastoral community is one of the poorest and most at-risk groups when it comes to climate-related disasters. The combination of land-use change and climate uncertainty is exacerbating the resilience of different social and ecological systems. The government must implement actions to safeguard vulnerable communities from the negative impacts of climate change.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Peer-review

Externally peer-reviewed.

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