

Impact of Climate Change on Nomads in Jammu and Kashmir with a view of public health facilities

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“We are blessed with nature’s rich resources but also confronted with multiple challenges of a fragile ecosystem which requires collective action to create a fine balance between man and nature”

- Manoj Sinha, Lt Governor, Jammu and Kashmir, June 6, 2022ⁱ

“My child will not spend his life tied to sheep and goats,” Bilal Ali, a Bakkerwal told me when I asked him why his group had chosen to migrate early. Nomadic communities like Gujjar-Bakkerwals are struggling to continue with their centuries-old migratory lifestyle.

With Jammu and Kashmir witnessing extreme weather events like the earthquake in 2005, flash floods and landslides in 2010, and the massive floods of 2014; the Bakkerwal population is finding it difficult to continue the centuries-old practice of transhumance pastoralism.

In Jammu and Kashmir, the bi-annual migration of nearly 6 lakh transhumant tribal population is a regular event. The tribals move to Kashmir from the plains and Pir-Panjal ranges of the Jammu region during the summers to reach the higher reaches of Kashmir and Ladakh. Gujjars and Bakkerwals as well as Gaddis in parts of Jammu form one of the largest transhumance communities in the Himalayas. (Faridi, 2021)

The tribal population of Jammu & Kashmir that migrates is larger than the total population of many countries such as the Maldives, Iceland, Malta, Suriname, Luxemburg, Brunei, Iceland, among others. (Choudhary, 2022)

Not all Migrations are the Same

Gujjar-Bakkerwals in Jammu and Kashmir follow four diverse migration patterns. Understanding the patterns of migration develops a coherent understanding of the various challenges that the transhumant population faces during the migration.

Intra-district Migration: In this type of migration, people migrate from villages in plains or mountain bases to highland pastures or alpine meadows within the district.

Inter-district migration: It involves the movement of tribals from plains of Jammu division which includes districts Jammu, Samba, Kathua to highlands in Udhampur, Chenab region and adjoining mountain ranges. The Bakkerwals mostly rear the Australian Merino breed and local Poonchi and Kernai sheep, which cannot stand high summer temperatures in plain areas.

Inter-province migration: This type of migration patterns is followed by maximum population, which includes movement from most of the districts in Jammu province to the Kashmir province during Summers and reverse migration during winters.

Inter-State Migration: Less than one-tenth of transhumant population migrates to Ladakh, Himachal Pradesh and Punjab. In many cases, families travel up to 600 km on foot, along with livestock and the journey can range from two to four or six weeks, including halts at various transit points. (Choudhary, 2022)

Tribal Researcher Javaid Rahi¹, who focuses on tribal Gujjar-Bakerwal culture contributed to this research through his observations on Tribals. He explained how the transhumance population of Jammu and Kashmir are totally dependent upon climatic conditions for their sustenance. Their life is intertwined with weather. Even if tribals chose not to migrate due to one reason or the other, the survival of their livestock is dependent on it leaving them with no other choice.

“The breed of sheep, goats and cattle that these tribals own start indicating themselves that it is time to move. Hot climatic conditions may result in death of the animals and while the sheep and goats can survive extreme winters, snowfall creates a shortage of fodder and grazing land so the animals would die of starvation,” he explained.

Such incidents were reported in 2019, before the onset of Covid-19 when summers arrived early to Jammu forcing Gujjars and Bakkerwals to start their migration to higher pastures. They reached the highland pastures of Kashmir but were shocked to find that the snow had still not melted there.

On May 28, *DownToEarth* talked to Mukhtar Ahmed Chaudhary, Secretary, Jammu and Kashmir State Advisory Board for development of Gujjars and Bakkerwals who blamed the delay in migration on “weather induced” reasons. He said, “Nomads have not been able to move at a pace and time best suited for them and their livestock.” (Nissa, 2019)

Khan Zaman, a 50-year-old Gujjar explained how they couldn’t take their livestock on higher reaches since the sheep would die of starvation as the snow cover on the pastures left no space for grazing. He blamed the icy temperatures in Kashmir for the delay in completing their migration when rising temperature in Jammu had forced them to leave early.

Even in 2018, Kashmir witnessed an early but heavy snowfall in the beginning of November. The heavy snowfall had destructive effects for tribals. Similarly, in the years 2020 and 2021, extreme winter conditions continued.

In the year 2022, as per *Ground report*ⁱⁱ, Kashmir is witnessing an extreme heatwave. The water levels have been changing. There was a visible decrease initially, causing a draught-like situation in both North and South Kashmir. This was followed by continuous rainfalls leading to flash

¹ Javaid Rahi is an Indian author, a tribal social reformer, and a researcher of national repute who has done pioneering work focusing on tribal Gujjar-Bakkerwal culture.

floods. The unseasonal snowfalls also continued especially in the rural areas and higher reaches of Kashmir valley. The unseasonal snowfall left nomadic tribals in distress. The Gujjar and Bakkerwals panicked due to the extreme cold conditions and with the meadows covered in snow, there was loss of livestock as well. Since Gujjars and Bakkerwals are nomads, they do not even own any permanent residence. They live in tents or temporary sheds during migration since migration is essential for their livelihood.

The nomads may not be aware of jargons of climate change but there is climate consciousness because of their close relationship with nature. These pastoral transhumance communities have been noticing the recent changes in climatic conditions since they are directly impacted by it. In recent decades, urbanization and climate disasters have put pressure on their livestock-based subsistence economy like never before.

As urbanization increases, patches of forest land which served as temporary homes for the tribals and provided grazing land for their animals are now being diverted towards constructing government buildings and new projects.

“Even Baba Ghulam Shah Badshah University which is among reputed education institutions in J&K was built entirely on grazing land, even though alienating grazing land for any other purpose is prohibited by law,” Tribal Researcher Javaid Rahi told me.

Since Gujjar-Bakkarwals were slow to claim private property, their traditional dwellings in the forests are also threatened by land-use change. These nomadic tribals make temporary sheds and homes near forest areas where their livestock and cattle can survive, finding fodder is easy and they can survive undisturbed by urbanization. But often, they are labelled as encroachers on forest land and are forced to vacate by government officials.

Khalid Choudhary, a Bakkerwal explained how even the afforestation initiatives of J&K government are proving to be a hindrance for the nomads. He said, “They come for plantation drives and then do fencing of the area to keep our livestock out. They destroy natural forests by giving away the land for making buildings and roads and then come here for plantation drives.”

A retired forest official explained to me that the damage caused by reduced forest cover cannot be compensated through afforestation since it would take ages for the same kind of tree cover to be formed in an area. The nomadic tribes suffer since the grazing land is reduced.

“Sheep and Goat feed on leaves from plants and tall grass. Cattle like buffaloes and cows feed on grass. If you plant trees in an area and later seal that off to stop the tribals from entering, while using the forest land for development projects, it is counterproductive. These communities are helping in maintaining the ecological balance,” he said.

Extreme Weather Events means Tragedies

The recently bifurcated union territory (UT) of Jammu and Kashmir (J&K) in the northernmost part of India, is one of the most severely affected regions by both natural and man-made disasters. It is a region prone to multiple hazards on account of its topography and varying

extreme climate. The region has suffered massive floods, devastating earthquakes, and recurrent avalanches and landslides.

Dr Shakil Ramshoo, Vice Chancellor of Islamic University of Science and Technology spoke about the changing weather patterns in Jammu and Kashmir. He believed Climate Change to be a key factor for the same. (Kathju, 2022)

He mentioned that though it is impossible to always predict cloudbursts, landslides or other natural calamities, but the intensity and frequency can be seen with perspective of climate change that is being witnessed globally.

Extreme weather or climate events are phenomena that can have catastrophic effects on human communities, agricultural systems, and natural ecosystems. Extreme weather-related events, such as heat waves, freezing temperatures, torrential downpours, etc., are frequently transient. Extreme weather events may cause temporary damage in the form of loss of livestock, delayed migration or irreversible damage such as land collapse, loss of life, disconnecting higher reaches from pathways.

Dr Shakil has studied climate change impact in the Himalayan region and pursued research work on hydrology, glaciology, environment. He explained how urbanization and the penetration in fragile regions is leading to environmental degradation.

Snowfall/Snowstorms

Unpredictable snowfall or unseasonal snowfall covers the meadows leaving tribals with shortage of fodder for their livestock. Extreme cold conditions are detrimental to the survival of these nomads since they do not own permanent houses or shelters or sheds for their livestock to protect themselves and their animals. Snow avalanches are also frequent in J&K which is an added challenge.

Basharat Ali, a Bakkerwal, recalled an instance from two decades ago. The nomads were moving from the Pir Panjal mountains to Kashmir as the temperature had started rising. An unseasonal snowstorm hit their caravan and hundreds of their sheep and horses died. He was just a 15-year-old boy then and still remembered how difficult it was to overcome that loss.

“We had nothing except hand-made woollen blankets to survive the snowstorm. Imagine 50 families hiding under trees, trying to survive the wrath of nature,” he said.

Heavy Rainfall/ Cloudburst

Indian researchers conducted a study in 2010 to assess climate change in India (Assessment, 2010). It pointed out that there will be a rise in minimum and maximum temperatures, as well as the number of rainy days by 2030 in the Himalayan region. The report assessed an annual increase by 5 to 13 percent by 2030 as compared to 1970. For some regions in J&K, it may rise up to 50 per cent.

Nomads who own cattle prefer staying near rivulets or other waterbodies but frequent rainfalls can lead to rise in water levels, flash floods and drenching of the grasslands. Cloudbursts and

lightning strikes are quite frequent in the upper reaches. These natural disasters are deadlier than man-made ones and end up damaging communities as a whole. Cloudbursts may lead to mud slides, land-slides further reducing the grazing land. Soil degradation is another factor that cannot be overlooked in such circumstances.

Lightning Strikes

There have been numerous incidents reported in Jammu and Kashmir in recent years where hundreds of livestock including goats, sheep and cattle die due to lightning strike. 400 cattle recently died in Ganderbal due to lightning strike when some nomadic families were returning from the seasonal pastures.

Earthquakes

Certain regions in Jammu and Kashmir are prone to frequent earthquakes such as the Chenab Valley and Pir Panjal areas. There are earthquakes in distant peripheries of Marwah, Warwan where tribals reside during their migration. When an entire area collapses due to earthquake or develops cracks, it creates connectivity issues for tribals. Tribals don't follow the traditional routes since in those upper reaches, there are never any proper pathways. They cover hundreds of miles on foot along serpentine tracks, halting and making camp at different areas. So, when an area develops cracks, becomes unstable or collapses, it contributes to the loss of available land.

Loss of connectivity also leads to major losses when a pathway is broken. A sheep may jump into a gorge, and then the entire flock will follow. The owner might not realize till too late that the earlier pathway no longer exists.

When it comes to cattle, migration is even harder because the animal is comparatively heavier. Cattle cannot cross streams easily and so they require proper paths. Furthermore, tribals believe that the new types of animal breeds that the government has been offering cannot manage with the lifestyle of the pastoral community since they require more care and attention and cannot bear extreme climatic conditions as compared to the breed of cattle that the tribals traditionally own.

Forest Fires

Forest fires, whether due to extreme heat, lightning strikes or man-made causes is another factor that deeply impacts the nomadic tribal community. The forest cover lost due to fire requires years to rebuild, and even then, some areas might never recover again. The stench of burnt trees and grass keeps livestock away from such areas and so they become unusable for tribals. The emergency response of forest officials is often delayed and by the time efforts are made to extinguish the fire, it does its damage.

The Aftermath

Reduction of grazing land due to the aforementioned conditions leads to overgrazing in the available areas, further leading to soil degradation. Amanat Ali, a 65-year-old Bakkerwal explained how there are fewer and fewer areas available every year for tribals. The forest department, he said, instead of facilitating them prohibits them from entering certain areas.

“If this continues, there will come a time when there is no land or fodder available at all. Every year, situation continues getting bleak,” he said.

Ali described that the problems faced by the animal-rearing community as well as the loss of life and livestock during snowstorms, earthquakes and flash floods is forcing families to give up migration.

Another possible consequence of changing climatic conditions is delay in migration. It may be due to snowfall or unseasonal snowfall. The delay leads to a cascading effect on lives of the pastoral transhumance communities. Their business is aligned with seasons and land use patterns. Any delay could mean reduced food availability for their livestock. Late migration means, most of the time would be lost in travel and the livestock would not get enough grass. Some sheep and goats may even die due to heat amid rising temperatures if the nomads are unable to reach colder regions in time.

The understanding of the effects of climate change on human population necessitates a framework customized to the local realities. In 2022, June witnessed the coldest day and the hottest day in the same year. March which previously was known to be comparatively cold, was really hot as well. Even *chillai kalaan* (the period known for harsh winters in Kashmir) went without any snowfall. These extreme weather events are simply indicators of climate change in Kashmir.

On June 22, Ground Reportⁱⁱⁱ reported that at least 70 livestock which included sheep, goat and some cows were killed due heavy rains and untimely snowfall in Kashmir. District sheep officer Budgam informed that 14 sheep were killed due to cloudburst at Dourien, 8 killed at Ladermad as a pine tree fell on them, some were killed due to hypothermia and some were killed due to non-availability of feed. They advised shepherds in highland altitude points to return till weather improves.

Tribals are dependent upon livestock for their livelihood and loss of the same, unless certified as being caused by “calamity” is not eligible for compensation. The compensation mechanism is so complex, explained Tribal activists that it must undergo different stages. A committee is formed to evaluate every case. A veterinary doctor must certify that the animals died due to natural calamity and not due to illness or any other reason. District magistrate has to approve the compensation, and even then, the amount is not proportional to the loss. If each sheep is worth Rs 10,000 and 50 sheep die due to lightning strike or something else, the families might be compensated Rs 1000 per sheep. The total amount is hugely inadequate and since tribals are immersed in their day-to-day work, they have to decide whether to stay with the livestock that survived and take care of it or run from pillar-to-post for the compensation.

The process, he said needs to be made easier, since no doctor or committee member would be willing to reach the actual location of the tragedy to witness how much damage has been done and whether or not the deaths were due to climatic conditions.

“Sometimes the officials even doubt the photographs we show them, saying it must be from previous year, or they question the numbers. If we say 100 sheep died, they may only compensate for 50,” said Barkat Choudhary.

Where does climate change factor in when making policies?

There is a growing sentiment in the next generation regarding giving up the practice of migration and finally settling down. Some blame it on the uneven weather patterns, and others on the apathy of the government regarding implementation of policies that benefit the tribals.

The arduous process of migration and the complex range of factors influencing it require a holistic view of the administration in catering to the needs of tribals. The yardstick remains access to welfare schemes, without consulting the stakeholders while framing the same. Any policy model would not succeed without the wisdom of the tribal communities who have followed the practice of migration since centuries.

Though government has taken steps to increase access to essential services such as education, the same is found lacking in terms of facilitating migration, taking steps for ensuring sustainability of the practice and improving the process of compensation. Migratory schools and seasonal centers have helped tribals but livestock husbandry is a difficult task, especially in an ecologically fragile area such as Jammu and Kashmir.

A detailed questionnaire sent to Secretary, Tribal Affairs regarding the impact of climate change on nomads received no response. An overview of the website of Tribal Affairs department of Jammu and Kashmir shows emphasis on educating tribal children, preserving the language and culture of the tribals but little mention is made regarding access of health facilities or compensating loss due to natural calamities. Data, if maintained, could not be found in the public domain.

A press release from Feb, 2022^{iv} does reveal that Union Ministry of tribal affairs approved major projects for Jammu and Kashmir such as the establishment of Centre for Research in Tribal Health (CRTH) and Centre for Research and Advance Planning for Tribals (CRAPT).

It also mentioned certain other projects such as healthcare screening of the transhumant population, integrated tribal village development planning, impact assessment programme for special central assistance to tribal sub schemes and other centrally sponsored schemes.

Even though nomadic tribals are prominently animal-rearing communities, tribals allege that even the animal husbandry department pays little to no attention towards them. Special camps or workshops meant for Gujjar-Bakkerwals are missing. The department’s focus is mainly on commercial livestock farmers, dairy owners and promoting animal breeding.

Access to Public Healthcare facilities

Even if one does not specify the condition of transhumance pastoralists in J&K, the human development index of transhumant communities across India is low. As per research (Veenapani

Rajeev Verma, 2019), these communities face neglect due to their geographic isolation and logistic requirements. Even the health and poverty initiatives at national level fail to prioritize these communities. Healthcare for nomadic tribals in J&K is not just for people but also primarily for their livestock.

I spoke to some Bakkerwals while they were migrating towards Kashmir regarding Covid-19 and saw an apathy towards allopathic medicines as well as vaccines. Government initiatives to reach even the farthest corner of J&K for its immunization progress did benefit the community. However, that is not the case most of the time. Another study (Mishra, 2015) revealed that non-availability of medicines at low cost is one of the major factors responsible. Bakkerwals also face mobility issues as these communities lack resources to travel long distances for treatment. It results in the population getting dependent upon home-remedies or natural herbs for treating illnesses. They use local herbs and shrubs to make concoctions for treating both animals and humans.

Even in case of emergencies, the transhumant pastoralist tribes must walk long distances to reach the nearest healthcare facility resulting in poor outcomes. The household units of these tribals are referred to as *deras*. The *deras* spread in all directions to make makeshift residential huts in available space, on flat surfaces in slopes at higher reaches. Movement from those areas is generally difficult. Therefore, even if low-cost medicines are made available at public healthcare institutions, merely the cost of transportation to the facility would take up a significant amount. Often, the cost is even higher than that of medicinal and diagnostic cost. Since the subsistence economy of these nomadic tribals is dependent on animal rearing, such cost is met by selling the livestock. This results in the tribals losing their source of livelihood for the sake of facilitating treatment of the patient. There is also lack of awareness regarding health insurance which causes a heavy burden on the pocket of the family.

The problem of ensuring accessibility to the transhumant population is logistically complicated. Even the health facilities such as Primary Health Care centers or District hospitals set-up in lower reaches meant to cater to the population are not efficient or sufficient. The unavailability of doctors or drugs is one reason and sometimes the facilities are inoperative even during work hours. Sometimes, the families travel long distances only to find that the facility is shut. Trained doctors and nurses do not wish to be posted in such tough areas resulting in dearth of medical staff. Often the sub-district and district hospitals are also under-staffed.

“In such strenuous circumstances, Indian Army is a life-saver,” said Javaid Rahi. They are the ones who organize medical camps for nomadic tribals, provide free-of-cost medicine and even send veterinary doctors for frequent check-up of animals. But the camps are occasional and the help is not sufficient to meet up the demand of tribals.

The concept of healthcare that you see among Bakkerwals is different than what you would find in other communities. A pregnant lady is found working till the final month of delivery and even after labor, takes barely a week off.

“The work-load is so much, that one family cannot afford to have a member on bedrest. The mid-wife system is still continuing and we generally do not prefer hospital births, unless there is

a complication,” said Amanat Ali. His pregnant wife accompanied him during the migration on-foot even though she had the option of riding on a horse.

“She found out she was pregnant after five months and feels like vomiting if she is asked to ride a horse. She will also walk. The only fear we have is that there should be no infection during the labor. There have been many deaths during childbirth because of it,” he said.

The Bakkerwal women, because of their low social and political participation are unaware of schemes meant for their health and social upliftment. Government has launched plethora of schemes such as Integrated Child Development Services, Janani Suraksha Yojana as well as Pradhan Mantri Matru Vandhana Yojna among others, since they live in far-flung areas and continue moving, they are unable to avail the benefits of such schemes. Their geographical isolation means lack of communication channels, so they hardly receive information about such programmes.

According to a survey conducted by Tribal Research and Cultural Foundation (TRCF), more than 71 percent of nomads were unaware of state and central government schemes meant for upliftment of people falling in the Scheduled Tribe category. Previous reports have shown serious cases of malnutrition and anemia in adolescent tribal girls. Their body mass index and hemoglobin levels revealed that it is necessary to have health programmes directly targeting tribal girls.

Awareness regarding immunization programs for children is still lacking in the community resulting in hesitance. The same was experienced during the Covid-19 vaccination drive as well.

Dr Nusrat who was working with a PHC in Poonch at the time revealed that they travelled to a remote area in Surankote Tehsil for the vaccination drive but the women ran away when they saw her.

“There were two women and they were so scared of the vaccine since they believed it may render them infertile or lead to their deaths. Such hesitance is common among tribals because of lack of awareness,” she said.

There is also a general aversion to allopathic medicine as well among the older generation. A 75-year-old Bakkerwal who was visibly coughing refused to agree that he actually needed medical help.

Healthcare facilities for livestock is another challenge, mainly due to logistical issues. When sheep and goats wander in the forest area, they might consume poisonous plants or get infected with foot and mouth disease. However, for a tribal, the problem is carrying that animal to reach a health facility.

Tribal plan for the year 2022-23 was reviews in meeting conducted by Additional Chief Secretary, Health and Medical Education, Vivek Bharadwaj. The press release^v of that meeting revealed plans to provide healthcare facilities in *Dhoks*, tribal villages and transit accommodations on migratory routes.

Plans for early procurement of Mobile Medical Units and Ambulances for tribal areas with dedicated service contract, dedicated Aarogya Mitras to facilitate patients from tribal population, Tribal ASHAs for extending healthcare services in Dhoks, deputation of doctors and paramedic staff were discussed. It was mentioned that Tribal Affairs Deptt had released Rs 14.50 Cr under the 1st Tribal Health Plan for procurement of machinery and equipment for migratory population.

How many of these plans are actually manifested on ground is yet to be seen since last year on September 19, Lt Governor Manoj Sinha had announced^{vi} “We have also finalized a plan to build transit accommodation for migratory population and develop tribal villages as Model villages.”

He talked about the Tribal health plan, Tribal Bhavans and Mobile Medical care units in Jammu, Srinagar and Rajouri. “Rs 73 crores along with Central Government and the UT Capex budget, has been sanctioned this year for the Cluster Tribal Model Village,” he said.

He talked about the government’s plans for sustainable livelihood of the transhumance pastoralists including 1500 mini sheep-farms, setting up milk villages and training of youth in marketing. However, there was no mention of climate change or the impact of natural calamities on the tribal population as well as the government’s plan for the same.

Till now, these plans have remained on paper and tribal activists allege that the Tribal Welfare Department has been functioning merely as nodal agency which received funds and further distributes them to other departments without putting any checks and balances in place to ensure that the funds are being used for the benefit of the tribal community.

Suggestions

State Advisory Board for Development of Gujjars and Bakkerwals has previously recommended formulation of an insurance policy for nomads’ livestock losses. However, no such initiative has been taken. The insurance would help meet up with the losses and act as a safeguard for continuing the tradition of migration.

Workshops for nomadic tribals in languages that they speak is need of the hour. There is Kissan-Vaani and other Doordarshan program for farmers and agriculture department is focused upon reaching out to the farthest corner to teach farmers the latest techniques. Yet, workshops for tribals to increase their knowledge about diseases that their animals may catch, use of medicines as well as keeping up with weather updates is required. These programs could instill better understanding of healthcare schemes, the necessity of vaccines and important information regarding animal-rearing as well.

Since tribals are often the first-hand victims of natural calamities, the youth must be provided with some disaster-training and first-aid training. If someone drowns, gets hypothermia or gets bitten by a snake which is pretty common, how to respond? This knowledge could be crucial to save someone’s life when no expert is around. Since tribals live in isolated areas, often cut off from the urban world, disaster-training and first-aid training is must.

The *deras* must be provided with toolkits that include some emergency medicines for the tribals as well as animals. Some helpline numbers should be shared with them and there should be programs for awareness regarding consultation. While formulating policies for tribals, the stakeholders which includes tribal researchers, tribal activists and the families should be talked to.

While the government is also of view that animal-rearing communities contribute immensely to society, the departments responsible including Animal Husbandry department and Tribal Affairs department must play a proactive role in ensuring that the transhumance pastoralists of Jammu and Kashmir are facilitated. Whether it is about access to basic facilities such as healthcare or strengthening the subsistence economy by providing safeguards against natural and man-made disasters, the tribals who fall low in human development index should receive adequate support and guidance.

Health programmes targeting adolescent girls in particular must be launched and they must be offered health services at their doorstep. Such kind of planning would require a coordinated approach and communication between the department and the tribal community. Since the Gujjar-Bakkerwal community still perceives health with an outdated lens, a focused approach for changing their outlook on health is needed so preventive measures can be taken. The younger population is more prone to major illnesses and as such, awareness and quick action can be key to saving lives. It has been widely reported in many cases when some Gujjar or Bakkerwal pregnant women deliver a child on-route to the hospital but do not survive. Efforts must be made to stop such instances by creating a better system in place.

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ⁱ Excelsior Correspondent, "We are facing worst impact of climate change: LG", *Daily Excelsior*, June 6, 2022

ⁱⁱ (Wani, 2022)

ⁱⁱⁱ (Jain, 2022)

^{iv} PTI, "Union ministry of tribal affairs approves major projects for J-K", *The Print*, February 8, 2022

^v "Bharadwaj reviews proposals under Tribal Health Plan", *Daily Excelsior*, February 4, 2022

^{vi} "Govt committed to protect interests of J&K's tribal population: LG Sinha", *Greater Kashmir*, September, 19, 2021