Strategies and Responses to Natural Disasters in Early Medieval Kashmir: A Case Study of Floods and Famines

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Abstract: *The Kashmir Valley, nestled in the north-western Himalayas, is a region renowned for its stunning beauty but also its vulnerability to natural disasters such as floods, earthquakes, and landslides. Kashmir valley, often referred to as "Paradise on Earth," has a rich history dating back to ancient times, shaped by its unique geography and complex socio-political fabric. Surrounded by the towering peaks of the Pir Panjal and Great Himalayan ranges, the valley's singular water outlet through Baramulla via the Jhelum River has historically made it particularly susceptible to devastating floods and famines. From the earliest days of human habitation in the valley, these natural calamities have posed significant challenges to the region. During the early medieval period (6th to 13th century CE), Kashmir was marked by several such disasters, posing significant challenges to the region's rulers, which tested their governance and resilience. This paper examines the historical strategies and responses employed by the rulers of early medieval Kashmir to manage and mitigate the impacts of these natural disasters in Kashmir during this critical historical period.*

Keywords: Early medieval Kashmir, Pir Panjal, Dykes, Embankments, Jhelum.

INTRODUCTION

Nestled in the northwest Himalayas, the Kashmir Valley is framed by the towering Zanskar range to the north-northeast and the Pir Panjal range to the south-southwest. The valley's landscape is characterized by three distinct physiographic zones: the surrounding mountains, the Karewa uplands composed of Plio-Pleistocene deposits and the fertile floodplains. This unique geography has led to the belief that, in ancient times, the Kashmir Valley was once a vast mountain lake known as Satisar, a theory supported by geological evidence (Shali,1993). According to legend, the ancient lake of Satisar was drained by the sage Kashyapa Rishi, and the reclaimed land came to be known as Kashyap-pur or Kashyap-mar, which later evolved into the name Kashmir. Geologists, however, propose that volcanic activity created a fault near Baramulla, forming the natural outlet through which the Satisar lake drained (Lawrence, 2014). The name Kashmir is believed to originate from the Sanskrit words *Ka*, meaning water, and *Shimira*, meaning to desiccate, signifying "land desiccated from water" (Koul, 1925).

No description of the Kashmir Valley is complete without highlighting its vital river, the Jhelum, historically known by many names Vitastha, Vehet, Behut, and Hydaspes (Moorcroft, 2020). Originating from Verinag in the southern part of the valley, the Jhelum runs nearly the entire length of Kashmir, flowing northwest towards Wular Lake. It is fed by smaller rivers draining the valley, yet its susceptibility to flooding has profoundly shaped the region's economy. Throughout its long history, the valley has witnessed numerous devastating floods, which not only destroyed crops and claimed lives but often led to severe and prolonged famines, exacerbated by the valley's isolation. Floods in Kashmir are primarily triggered by heavy rains and the melting of snow, which cause the region's water bodies to overflow. Among these, the Jhelum stands out as the primary source of both sustenance and suffering, frequently blamed for the valley's recurring miseries. This natural vulnerability to flooding has made Kashmir particularly prone to cycles of disaster, where famines often followed in the wake of destructive floods (Bhat, 2018).

Kashmir has been plagued by floods since the earliest days of life in the valley, with a recorded history of flooding spanning over 4,000 years. While most of these floods were caused by heavy rains, there are accounts of two major floods triggered by earthquakes during the period in question. The first occurred during the reign of Sundar Sen (2083–2042 BCE), and the second took place under the rule of King Avantivarman (855–883 CE) (Bhat, 2018).

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These seismic events stand out amid the long history of rain-induced flooding in the region. Kalhana, in his *Rajatarangini*, recounts a semi-mythical earthquake that struck during the reign of Sundar Sen in 2041 BCE. Occurring at night, the earthquake caused the ancient capital city of Sandhimatnagar to sink into the ground, along with its king and inhabitants. In the aftermath, water surged up from the depths, leading to the formation of Wular Lake. This dramatic event remains etched in the valley's lore as a key moment in its ancient history (Bamzai, 2009). Strategies were adopted to protect Kashmir's cultivable lands from the devastation of floods date back to ancient times, with the construction of embankments being one of the key responses. Kalhana, in *Rajatarangini*, credits King Damodara with building the first long, stone-lined dykes to safeguard against inundation (Stein, 2019). The earliest known flood spill channel, *Tsunt Kul* (Apple Canal), was built during the reign of Pravarasena II, the founder of Srinagar. This canal begins at the *Veth* (Jhelum) near *Sher Ghari* and rejoins the river at *Dubaji*, effectively providing an alternative route for floodwaters (Bates, 2005). Kalhana, our primary historical source, notes that the area where Pravarasena II founded his new city was originally marshland, created by frequent flooding from the Jhelum. To reclaim the land for the city of Maisuma (ancient *Maksikswamim*), Pravarasena II constructed the *Tsunt Kul* canal. Before this, the Jhelum often overflowed, submerging the surrounding areas (Stein, 2019). Recognizing the need for flood control, Pravarasena II raised embankments, diverting water through what became the *Tsunt Kul*. According to Kalhana, this project not only protected the land but also led to the formation and safeguarding of the newly created island of Maisuma (Stein, na,).

During the 8th century CE, under the reign of Lalitaditya (724–761 CE), incessant rains inundated the entire city of Srinagar, including the Raj Mahal, which had to be relocated to Letapora. The floods swept away hundreds of houses, highlighting the urgent need for protection against recurring inundations and the expansion of irrigation facilities to support agriculture in Kashmir. Lalitaditya recognized these critical requirements and endeavoured to address both challenges effectively (Kapoor, 2005). The floods during his reign were primarily caused by the difficult passage of the Jhelum's waters near Baramulla and the overflow of the Mahapadma, or Wular Lake (Kapur, 1975). In a groundbreaking initiative, Lalitaditya became the first ruler in Kashmir's history to undertake the dredging of the Jhelum River. This period marks the earliest references to river dredging, with Kalhana documenting Lalitaditya's drainage operations, which reclaimed vast tracts of swampy land, making them suitable for cultivation and ultimately benefiting the valley (Sodhi, 2006). Lalitaditya implemented several flood protection measures, including the construction of stone dykes and embankments. His efforts not only drained excess lake waters but also increased agricultural productivity (Rabbani, 2009). The high alluvial plateaus, known as the Karewas, made it challenging to irrigate the land between them and the left bank of the Jhelum from Bijbehara to below Cakradhara (modern *Tsakdar*) using conventional canal systems (Kapur, 1992). To tackle this issue, Lalitaditya devised a system at Cakradhara to channel the Jhelum's waters and distribute them to surrounding villages through a series of waterwheels (*ambhahpratarana*). This innovation was instrumental in mitigating famine and enhancing agricultural output (Stein, 2019). Overall, Lalitaditya's drainage operations significantly improved the productivity of the region, contributing to its agricultural development.

However, the flood management measures implemented by Lalitaditya were gradually neglected by his successors, leading to a resurgence of devastating floods in the valley. Consequently, Kashmir once again faced frequent inundations, putting the region at risk of famine (Bamzai, 2009). In addition to these challenges, the valley was struck by another catastrophic flood caused by an earthquake in 856 CE. *Tarikh-i-Hassan* records that a massive earthquake occurred at night, triggering a landslide that blocked the River Jhelum and inundated the Kashmir Valley. Boulders from the Khadanyar ridge in Baramulla rolled into the riverbed, obstructing the flow of the Jhelum. As a result, the valley was submerged up to Bijbehara in southern Kashmir, leaving boatmen navigating the waters for an extended period, often seeing rooftops submerged beneath the floodwaters (Shah, 2016). The floods caused widespread famine and displaced low-lying populations, forcing them to seek refuge on higher ground. Kalhana's *Rajatarangini* offers extensive details about the efforts of the 9th-century engineer Suyya, who played a crucial role in addressing these challenges. Suyya not only cleared the natural dam that had formed but also drained the valley and implemented numerous irrigation projects to restore agricultural viability (Sodhi, 2006). Suyya developed three strategies to combat the flooding in Kashmir: dredging the river in both the upper and lower regions, altering the course of the Jhelum, and constructing strong embankments. According to the historical record of *Rajatarangini*, King Avantivarman (855–883 CE) learned that Suyya had claimed he could drain the floodwaters that plagued the Kashmir Valley (Stein, 2019). Suyya astutely recognized that the flooding was primarily due to the Jhelum's inability to flow freely through a narrow passage located about three miles below Baramulla (Kapur, 1992). This passage had become further obstructed by rocks and boulders that continued to fall from the hillside. Thus, the solution lay in clearing and widening the river's passage to restore the natural flow of water and for this he asked some money from king. Avantivarman agreed to fund Suyya's efforts to tackle the flooding, but to everyone's astonishment, Suyya began by tossing large quantities of the king's coins into the floodwaters (Wilson, 2011). He dropped a pot full of money in the submerged village of Nandaka before hastily turning back. In verse 85 of *Rajatarangini*, it is noted that Suyya quickly returned from the south and headed north. Upon reaching Kramarajya, in the area known as Yaksadara, he threw money into the water with both hands (Stein, 2019). At this location, the rocks that had tumbled down from the mountains lining both banks had constricted the Vitasta, causing its waters to swirl backward. The famine-stricken villagers, drawn by the sight of the coins, searched for the money and began to remove the rocks from the river. This collaborative effort ultimately helped clear the riverbed of the Vitasta (Stein, 2019). Thus, the floodwaters were successfully abated when villagers, eager to recover the pots of coins thrown into the water as an incentive by King Avantivarman's engineer, Suyya, worked to breach the landslide dam. This ingenious

strategy not only cleared the obstruction but also alleviated the flooding, restoring the natural flow of the river.

The same engineer, Suyya, is credited with designing and completing numerous drainage and irrigation schemes in early medieval Kashmir, some of which are still identifiable today (Wilson, 2011). Whenever he heard of the breaches by inundation during the disastrous flood, in each one of them he constructed new channels for the Vitasta. With several canals branching off from the main stream, the river was poetically described as resembling a black serpent with many hoods, all resting on a single body, symbolizing the network of waterways that enhanced the valley's irrigation and flood control (Sufi, 2015). Suyya is also credited with altering the confluence of the Jhelum and Sindhu rivers. Originally, these rivers met near the ancient Buddhist plateau city of Parihasapura and Trigrami, but Suyya redirected their junction to a new point opposite Shadipur, where he built the Visnusvamin temple (Stein, 2019). In addition to this major undertaking, he constructed several overflow channels. These channels, described poetically as moving like the quivering tongues of snakes under his command, effectively controlled the river's flow, much like a conjurer managing serpents (Wani, 2023). Suyya also built embankments along the new course of the river, extending about seven yojanas (approximately 42 miles). This redirection of the Jhelum and Sindhu rivers reclaimed thousands of acres of fertile land, leading to the growth of numerous prosperous villages on these newly formed sites (Saxena, 1974). By constructing circular dykes around these villages to keep out the water, he gave these villages the appearance of round bowls (*kunda*), and the people aptly named them *Kundaka*villages, known for being well-stocked with food and resources (Stein, 2019). Through this remarkable feat, Suyya reclaimed vast areas of land, establishing villages such as *Wutsukundal* and *Markundal* on the southwestern side of Wullar Lake. Kalhana notes this alteration of the rivers' confluence as an innovative method for flood management (Kapoor, 2005).

At the same time, Suyya was also focused on irrigation measures that significantly increased crop production. He carefully studied different classes of land and ensured a steady supply of river water for the villages, reducing their reliance on rain (Rabbani, 2009). After irrigating all the village lands, he collected soil samples from each village and, by observing how long it took for the soil to dry, determined the optimal frequency of irrigation needed for each type of soil (Kumar, 2015). Based on this, he permanently organized the size and distribution of watercourses for each village. By utilizing streams like the *Anula* for irrigation, Suyya transformed the landscape, creating a network of irrigated fields renowned for their excellent produce. These projects required considerable funding and manpower, and must have providing a significant boost to the early medieval economy. His efforts brought immediate relief to the people, who now had more arable land with a reliable water supply, increasing both productivity and food security. Through these remarkable achievements, Suyya earned the title *annapati* (lord of food), a testament to his vital role in ensuring food abundance for the region (Stein, 2019). Kalhana accomplishes the efforts of Suyya by noting that, prior to Avantivarman's reign, the Kashmir Valley was plagued by floods and famine, driving the price of rice to an exorbitant 1,050 *dinnaras* per *khari* (with 1 *khari* roughly equal to 88 kg)—five times higher than during normal agricultural conditions (Stein, 2019). Thanks to Suyya's impressive hydraulic engineering, which included both drainage and irrigation projects, the price of rice dramatically dropped to just 36 *dinnaras* per *khari*, a sixfold decrease from the usual price (Ray, 1969). This economic transformation ushered in a period of prosperity, which, as Dr. Romila Thapar notes, became "a stabilizing factor in Kashmir politics," underlining the profound impact of Suyya's work on both the region's economy and its political landscape (Kapur, 1975). Kalhana eloquently praises Suyya's contributions, declaring: "Neither *Kasyapa* nor *Samkarsana*(Balabhadra) bestowed the benefits that the virtuous Suyya brought with ease to this land" (Stein, 2019). Sir Walter Lawrence, in his own tribute to this remarkable engineer, echoes similar admiration, remarking: "Things have not changed much since Suyya's time, for the valley is still waterlogged in some places, and the Kashmiris today would work harder if paid by Suyya's system than they do on a daily wage" (Lawrence, 2014). Thus, the reign of Avantivarman, as highlighted by Kalhana, stands out as a period of national prosperity and ease. It marked a peaceful transition from the corruption of former rulers to a time of abundant resources and stability, largely due to Suyya's transformative work (Bilham, 2014).

After the era of Avantivarman, no ruler took the same diligent care in managing Kashmir's water resources, leading to the recurrence of devastating floods. This neglect culminated in a catastrophic disaster during the terrible year of 917-918 CE. Kalhana provides a harrowing account of the famine that followed, wiping out a large portion of the population. The famine, caused by destructive floods during the reign of King Partha (906–921 CE), obliterated the entire autumn rice crop, driving the price of a *khari*of rice to an astronomical 1,000 *dinnaras*. The floods were so severe that, as Kalhana graphically describes, "one could scarcely see the water in the Vitasta, for the river was entirely covered with corpses, soaked and swollen from lying in the water for so long." The land, in all directions, was densely littered with bones, turning it into a vast burial ground, filling the survivors with terror and despair. This tragic event underscored the grave consequences of neglecting flood management in the valley (Stein, 2019). During the reign of King Harsa (1089–1101 CE), the Kashmir Valley was struck by a devastating flood in 1099 CE, leading to "an extreme scarcity of all wares." The flood destroyed crops, resulting in a severe famine where food became as precious as gold. People were forced to buy essential foodstuffs at exorbitant prices, with a *khari* of rice costing 500 *dinnaras*, and two *palas* of grape juice fetching one *dinnara*. Even basic items like wool were sold for six *dinnaras* per *pala*, while commodities like salt, pepper, and asafoetida became so rare that people could hardly hear of them. The flood caused a terrible loss of life, with streams choked by corpses, as Kalhana vividly describes: "The water of the streams was covered with the dead, whose corpses were swollen from being soaked with water—as if forests of cut trees had come down from the mountains." The catastrophe left a lasting scar on the valley, highlighting the deadly consequences of natural disasters on both life and the economy (Stein, 2019). During the reign of Jayasimha

(1128–1155 CE), the valley was overwhelmed by a devastating flood brought on by the clouds of the rainy season. Kalhana describes how "the land was deluged by the flood, and land and water became level. The earth became like a drinking cup filled with water instead of spirit. Trees, almost fully submerged, had only their tops visible, appearing like blue lotuses floating on the water's surface" (Stein, 2019). This vivid imagery captures the scale of destruction, as the flood turned the landscape into a waterlogged expanse, blurring the lines between land and river.

CONCLUSION

The history of flooding in the Kashmir Valley paints a vivid picture of the intricate relationship between the region's natural landscape and its people. From the devastating floods of the past to the ingenious engineering solutions crafted by figures like Suyya, the valley's inhabitants have continually adapted to the challenges posed by their environment. These floods not only caused immense suffering and loss but also catalyzed advancements in irrigation and flood management techniques, underscoring the resilience and resourcefulness of the Kashmiri people. However, the neglect of these systems by later rulers led to catastrophic repercussions, reminding us that the interplay between human intervention and nature is complex and requires ongoing attention. The historical account serves as a critical reminder of the importance of sustainable practices in water management, as the valley remains susceptible to the cyclical nature of floods and their impact on agriculture and society. Ultimately, the legacy of flooding in Kashmir is not just a narrative of disaster; it is a testament to the enduring human spirit, the quest for survival, and the continuous effort to harmonize with nature's rhythms. As we reflect on this history, it becomes evident that understanding and learning from the past are vital for ensuring a more resilient future for the valley and its people.

REFERENCES

1. Bamzai, P. N. K. (2009). *A History of Kashmir*. Gulshan Books.

2. Bates, C. E. (2005). *A Gazetteer of Kashmir*. Gulshan Books.

3. Kapur, M. L. (1975). *Eminent Rulers of Ancient Kashmir*. Oriental Publishers and Distributors.

4. Kapur, M. L. (1992). *The History and Culture of Kashmir*. Jay Kay Book House

5. Koul, Pandit Anand. (1925). *Geography of the Jammu and Kashmir State*. Tracker, Spink and Co.

6. Lawrence, Walter. (2014). *The Valley of Kashmir*. Ali Mohammad and Sons.

7. Moorcroft, William and Trebeck, George. (2020). *Travels in Kashmir from 1819-1825*. Jay Kay Books.

8. Rabbani, G. M. (2009). *Ancient Kashmir: A Historical Perspective*. Gulshan Books.

9. Ray, S. C. (1969). *Early History and Culture of Kashmir*. Munshiram Manoharlal.

10. Saxena, K. S. (1974). *Political History of Kashmir (B.C. 300- A.D 1200)*.The Upper India Publishing House Pvt. Ltd.

11. Shah, Peer Hassan. (2016). *Tareikh-e-Hassan* (English translation by Shafi Shauq). Jammu and Kashmir: Academy of Art, Culture and Languages.

12. Shali, S.L. (1993). *Kashmir: History and Archaeology Through the Ages*. Indus Publishing Company.

13. Sodhi, S. Luckvinder Singh. (2006). *The History of Ancient Kashmir*. Srinagar: Gulshan Books

14. Stein, M. A. (2019). *Kalhana's Rajatarangini (tra.)*.Gulshan Books.

15. Stein, M. A. (na). *The Ancient Geography of Kashmir*. Research and Publication Department.

16. Sufi, G. M. D. (2015). *Kashir: Being a History of Kashmir*. Gulshan Books.

17. Wani, Muhammad Ashraf and Aman Ashraf Wani. (2023). *The Making of Early Kashmir*. Routledge.

18. Wilson, H. H. (2011). *The Hindu History of Kashmir*. Gulshan Books.