CHAPTER II

FLOODS: A HISTORICAL PERSPECTIVE

Uttar Pradesh lies in an area of intense monsoonal activity as a result of which it is subjected to floods every year. The intensity of flooding varies from year to year but it is responsible for causing danger to standing crops, cattle, and human life. Flood occurs when, due to excessive rainfall, the catchment area of a river receives considerable volume of water which may not be drained off by the river. Physiography of the area also influences the occurrence and severity of flood. The intensity and frequency of floods vary primarily, with varying precipitation conditions in the catchment area.

The floods of different magnitudes of discharge at different intervals of time are commonly known by their expected recurrence intervals such as annual floods, 5 years, 10 years, 50 years or even 100 years floods. There may be a certain endemic zone in the river valley which may have annual floods of moderately high discharge, but it may have still extremely higher discharge at different intervals of time. So almost all the river valleys are subjected to varying degrees of flood incidences.
A qualitative assessment of floods is found in old literatures of north India. Very old sanskrit literatures narrate the occurrence of floods in early times. The myth of a great flood in the Shatapath-Brahman, the Fish-God warns Manu against the foreseen flood-disaster and directed him to save himself by taking shelter in a ship. The predicted flood came and the Fish-God carried his boat to the peak of the Himalaya. The same myth is repeated in the Puranas and Mahabharata. The post-Rigvedic Aryans came nearer the sea and therefore, were better acquainted with sea-fairing activities. The reference of heavy rainfall and resulting flood therefrom, is found in Vishnu-Purana. They are also found in Vedic prayers, among Daivapidanama of the Arthashastra and among the ityah of Mahabharat (V.60.17) as specified in the Puranas. But in those days, as the river system had natural flow and were not silted up as they are today, floods did not occur annually with monsoons. Floods were a rare phenomena to happen. The above references in old literature do reveal their presence and the suffering from floods in the Indo-Ganga plains.

Evidence of floods, occurring in Ganga plain, are also found in the writings of ancient and medieval history. During the Gupta period i.e. 4th century A.D., the whole of northern India was under the grip of severe floods. Patliputra was particularly badly affected by floods, that it was proposed to re-locate the city on a relatively higher ground. The Tarikh-a-Firozshahi of Zia-ud-din Barani and Ain-e-Akbari of Firdausi also indicate the damages caused by floods in Awadh region.

The systematic record regarding occurrence of floods is available from 1872, when they severely affected about 382 villages along the river Rapti near Gorakhpur district. The notable floods of 19th century are those of 1894 and 1898. In 1898 both Ghaghara and Rapti flooded their lower reaches. The water level of river Ghaghara at Algin bridge was 0.63 m above the danger level in 1894.

In the same way, the heavy and continuous rains of July and August in 1924 flooded the Ghaghara, Rapti and other small rivers causing great damage. The upper Ganga and the Yamuna, in October 1924, experienced catastrophic floods. The subsequent heavy rainfall in the catchment of Ganga and the Yamuna occurred due to the depression in the Andaman sea, which disappeared over the Simla-Kumaon hills by the end of September after causing exceptionally heavy and continuous rain there and also over the adjacent plains. The damages caused by the floods in Uttar Pradesh were very widespread and serious. Again in 1925 August, as a result of excessive rain, the most devastating floods washed away a number of villages on the bank of rivers Ghaghara, Gomati, Rapti and Kuwana. In 1928 monsoon, the excessive rain in July led to severe floods in the Ghaghara and Rapti catchment areas, damaging the Kharif crops. The monsoon of 1929 was erratic, the second half of September had incessant and excessive rainfall which flooded the Rapti and Ami rivers. Due to heavy rainfall in the catchments of Ganga, the Yamuna, Betwa, Ramganga, the Sarda, the Rapti and other tributaries in August 1934 there were heavy floods which caused considerable damage to life and property in Uttar Pradesh. During July 1936, the floods occurred owing to typical climatic conditions in the area. A deep
depression had developed with its centre near Lucknow in the beginning of July, which attracted strong monsoon winds leading to locally heavy falls in Uttar Pradesh. So the vigorous monsoon over the Upper Ganga Plain was responsible for severe floods in the Ramganga, Gomati, Rapti and Ghaghara rivers, due to which the situation was grave all along the course of these rivers. Hundreds of villages on the banks of these rivers were submerged much damage was reported from all over eastern Uttar Pradesh. According to the reports published in the India weather Review of 1943, the river Varuna got flooded suddenly causing damage to crops and property. Varanasi, Jaunpur, and Mirzapur had severe flood and heavy damages to crop as well as to property.

After 1950 the frequency and intensity of flood occurrences rapidly increased due to deforestation in upper reaches, encroachment along the rivers and siltation of river channels which have interrupted the natural flow of the rivers. October 1955 witnessed severe floods in the Ganga, Ramganga, Yamuna and Sarda rivers. The water levels in these rivers were reported to have risen to unprecedented levels. The level of river Ganga overshot the danger mark at many places, particularly near Farrukhabad. Hundreds of square kilometres of land were reported to have been submerged by one vast sheet of water. Similarly the damage in Uttar Pradesh was also consequently reported to be heavy.
The state had a gradual declining trend during 1956-1965, which was reversed in 1966. Floods were more frequent and more severe during 1966-1971 but the situation improved somewhat thereafter. Again the years 1976 and 1978 witnessed serious floods, of which that of 1978 was of unprecedented magnitude. The river Gomati had severe floods in September 1971 when not only the Gomati catchment area but several other towns like Sitapur, Sultanpur, Jaunpur etc. situated along its banks were flooded. The floods in Gomati submerged large areas in Lucknow City. In September 1978 severe floods in Ganga and Yamuna affected vast areas in Agra, Mathura and Varanasi. The Yamuna spill-over had also affected 40 villages along its bank in the Agra and Mathura areas.

The rainfall was more intensive and concentrated in 1980 and several rivers of the state remained continuously in floods for weeks together. The pressure of floods was severe and devastating particularly in the central and eastern parts of the state. But the monsoon of 1981 was still more severe with heavy rains and cloud burst causing nearly all the rivers to flood. All over the state there were heavy floods and water logging. The entire state was suffering from flood during the monsoon at one time or the other. In 1982 the river Ganga flooded Allahabad, Varanasi, Mirzapur, Ghazipur and Ballia. The
river Yamuna also flooded areas extending from Etawah to Allahabad. Due to abnormally heavy rainfall, Hamirpur and Banda also got flooded. This year was recorded as a year of severe floods. 1983 was also a notable year in the sequence of flood occurrence. This year too, the state witnessed devastating floods. Fifty six out of fifty seven districts of the state were affected due to heavy rains, waterlogging and floods. Lalitput, Jhansi, Hamirpur, Banda, Sitapur, Bara Banki, Gonda, Bahraich, Basti, Faizabad, Gorakhpur, Deoria, Varanasi, Ballia, Mathura, and Rampur were on top of the list which were severely affected by floods. Almost all the rivers of the state got heavily flooded causing extensive damage to flood protection works and inundating vast areas, as well as public and private properties. Severe floods were also experienced in 1985 during monsoon when out of 57 districts, 55 districts were affected by floods. The only districts not affected were Jhansi and Etah. In 1988 most of the state with its western and central zones and also hill zone districts had rains above normal as a result of which 46 districts out of 57 were declared flood affected. In 1989 out of the 62 districts, 25 were affected by floods which caused extensive damage to life and property.
A historical perspective of floods reveals that Uttar Pradesh is one of the major flood prone state of the country. The frequency and intensity of floods do augment with the passage of time. Of the total flood damages of the country about half is contributed by the floods in Uttar Pradesh.