

Dimension of the Problem - Floods

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Introduction

Floods are not a new phenomenon in India. Severe floods occur almost every year in one part of the country or the other causing loss of life, large scale damage to property and untold misery to millions of people. Its impact was not felt in the past because of absence of population pressure, and extensive industrial and other developmental activities in the plains as is the case presently. Besides, extensive destruction of forests, reclamation of more and more lands even within the riverine areas, have caused changes in the river regime over the years. All these have led to increasing flood damage to various flood control measures undertaken in the country.

Incidence of Flooding and its Impact

An area of 40 million ha. i.e., nearly one-eighth of the country's geographical area, is flood prone. The total area affected annually on an average is about 7.5 million ha. The cropped area affected annually is about 3.5 million ha. and was as high as 10 million ha. in 1988, the worst year. On an average, as many as 1529 lives are lost every year due to floods. As many as 11,316 lives were lost in 1977 alone. The total loss on account of flood damages to crops, houses and public utility was estimated at Rs.52659 crores during the period 1953-98. Maximum flood damage was estimated to be of the order of Rs.4630 crores in 1988.

Structural Measures for Flood Mitigation

The general approach to tackle the problem of floods in the past has been in the form of physical measures with a view to prevent the flood waters from reaching potential damage centres. This approach had its ancient origin and tradition in the country, because flood protection embankments have been extensively constructed in the Godavari, Krishna and Cauvery Deltas in South India and also in some areas of Indo-Gangetic plain.

The main thrust of the flood protection programme undertaken in India up to 1981 has been in the nature of taking up structural measures like:

- i) Dams and Reservoirs
- ii) Embankments, flood walls, sea wall
- iii) Natural detention basin
- iv) Channel improvement/drainage improvement
- v) Diversion of flood waters
- vi) Watershed Management

A number of multipurpose reservoirs like Bhakra and Hirakud constructed under the programme of water resources development provided incidental benefits in flood control through durable regulation. However, Damodar Valley dams constructed by Damodar Valley Corporation, provided specific in-built flood cushion for flood moderation which have provided great relief to highly industrialised areas of States of Bihar and West Bengal in its downstream.

Subsequently, flood cushion has also been provided in a few more dams like Rengali dam on river Brahmani in Orissa and Chandil Dam on river Subarnarekha. A number of town protection works were taken up, besides construction of drainage channels, particularly in Punjab and Haryana.

The total anticipated investment up to March '98 is of the order of Rs.5415.41 crores. The up-to-date progress of construction of these works up to March '93 is given below.

i)	Length of embankments (Km)	16199*
ii)	length of drainage channels (Km)	32003*
iii)	Towns protected (Nos)	906*
iv)	Area protected (M.ha)	14.374*

*Tentative

Strategy for Flood Management and Review

During the 8th Plan Period (1992-97), an additional area of about 1.822 m.ha. was likely to be provided protection with an anticipated expenditure of Rs.1909.86 crores. The Working Group on Flood Management for the ninth Five Year Plan has recommended an outlay of Rs.6461 crores to provide protection to an additional area of about 3.063 m.ha. Statement showing planwise expenditure and corresponding area protected under flood management programme is given below :

PLAN	YEAR	EXPENDITURE (Rs. Crore)	AREA PROTECTED (M.ha.)
FIRST PLAN	1954-56	13.21	1.00
SECOND PLAN	1956-61	48.06	2.24
THIRD PLAN	1961-66	82.09	2.19
ANNUAL PLAN	1966-69	41.96	0.40
FOURTH PLAN	1969-74	162.04	2.21
FIFTH PLAN	1974-78	298.60	1.94
ANNUAL PLAN	1978-80	329.96	1.23
SIXTH PLAN	1980-85	786.85	1.80
SEVENTH PLAN	1985-90	941.58	0.79
ANNUAL PLAN	1990-92	460.44	0.40
EIGHTH PLAN	1992-97	1909.86*	1.882**
NINTH PLAN	1997-2002	6461.00***	3.063***

*Anticipated

**Likely to be achieved

***Recommended

Take people away from floods not floods away from people

Even though the problem of floods has been receiving increasing attention and in spite of substantial investments in flood sector during the last few decades, it is observed that the flood damage in the country has continuously been showing a rising trend. It was in this context that the National Flood Commission (RBA) was set up in July, 1976 by the Govt. of India to examine and advise on various aspects relating to floods. The RBA, in its report submitted in 1981, inter-alia, laid great stress on proper flood plain management without diluting the importance of structural measures for specific situation. Subsequently, the specific problems of Ganga and Brahmaputra basins were also studied by high level committee of experts.