

## Effects of Floods on Communications.

### (b) Railways.

By

\* M. M. ZUBAR

Waterways under Railway lines are not provided to deal with floods of an intensity which occurs once in a century. It would be uneconomical to do so. But enough waterway is provided to dispose of safely and without undue afflux floods of more than normal intensity and to deal with floods that occur once in 50 years.

Normally, therefore, no damage should be caused to the Railways except once on an average in hundred years. But it has been noticed that during the last 15 years floods of great intensity have occurred again and again in West Pakistan which have caused great havoc including serious damage to and disruption of Railway communications. While the last heavy flood attaining record levels occurred in the Jhelum river in 1929 floods of increasing intensity have occurred in the Chenab, Ravi & Sutlej rivers and in Indus at and below Sukkur in 1942, 1948, 1950, 1955, 1956 & 1957.

While these frequent floods can be attributed to extraordinary rainfall in certain catchment areas that alone does not appear to be the reason. A great contributory factor has been the putting up of flood embankments to protect the rich lands grabbed from the flood plains due to the need for more land which could be irrigated by canals. Also new works like the Marala Ravi link, and the B.R.B. link which cut across the drainage of the Doab between Ravi & Chenab and which have constricted the flow through the Ravi have contributed to the present situation. The extension of bunds and the construction of canals near and parallel to the rivers, thus obstructing the flood plains are the causes of higher and still higher flood levels in the rivers. The result is that neither the railway bridges over large rivers nor the canal headworks are capable of passing the new flood volumes safely. The flood water either breaches the marginal bunds of canal headworks and the roads and railway lines or the marginal bunds have to be cut to save the canal headworks, thus flooding large areas and causing an immense amount of damage. During the 1955

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\* Chief Engineer, N. W. Railways.

floods and again in 1957 the direct railway route between Lahore and Lalamusa was cut off for several weeks, Lyallpur was cut off from Lahore and so on.

Other points of damage to the Railways are, the main line between Nowshera and Peshawar and the Jacobabad-Sibi section. Here also the damage is caused by the cultivators encroaching on the natural flood channels which have got blocked and the bridges and waterways provided under the Railways have been rendered useless. The flood water takes any course and breaches the Railway line at different points every time.

Any attempt, therefore, to encroach on the flood channels or the flood plains of large rivers is certain to cause floods and not only cause damage to the property and crops but also to the communication system. Building of diversion channels and additional bridges is a costly affair, an instance of which is the diversion channel to protect Sidhnai Headworks and the Railway bridge on the Ravi, above it. It has been called the largest artificial channel in the world but is to cost a huge sum of money which the province can ill-afford. It has to be considered whether such costly remedies are inevitable. This, of course, is the work of a proper flood commission which must have wide powers if it is to effectively deal with the flood problem in West Pakistan.