

SALIENT FEATURES OF THE FINDINGS OF STUDIES ON ESCAPAGES BELOW KOTRI BARRAGE

Water Apportionment Accord was signed among the Provinces on March 16, 1991. The distribution of water among the Provinces is since then being made in accordance with the provisions of the Accord.

2. Clause 7 of the Accord states that:

"The need for certain minimum escapage to sea, below Kotri, to check sea intrusion was recognized. Sindh held the view, that the optimum level was 10 MAF, which was discussed at length, while other studies indicated lower/higher figures. It was, therefore, decided that further studies would be undertaken to establish the minimal escapage needs downstream Kotri."

3. In pursuance of the above, the Government of Pakistan launched three studies in October 2004 namely:-

- (I) Study on Water Escapages downstream Kotri to check Sea Water Intrusion.
- (II) Study on Water Escapages downstream Kotri to address environmental concerns of Sindh Province.
- (III) Study on environmental concerns of four Provinces (excluding areas covered in study I & II).

The studies were entrusted to consultancy firms of repute. A Panel of following three International Experts (IPOE) was engaged to review and finalize the recommendations of these studies.

- (i) Dr. Fernando J Gonzalez, Mexican national, Ex-Regional Director, World Bank.

- (ii) Dr. Thinus Basson, American national, Professor and Consultant with various Universities in the United States.
- (iii) Dr. Bart Schultz, Dutch national, world-renowned consultant in Irrigation & Drainage.

4. Following are the salient features of the findings of the studies finalized on the basis of above process:-

- (i) An escapeage of water at Kotri Barrage of 5000 cusecs throughout the year is considered to be required to check seawater intrusion, accommodate the needs for fisheries, environmental sustainability, and to maintain the river channel.
- (ii) Only surface water is affected by intrusion of seawater. Salinity in the ground water aquifer is predominantly due to fossil water salinity from geological origin.
- (iii) A total volume of 25 MAF in any 5 years period (an annual equivalent amount of 5 MAF) be released below Kotri as flood flows (Kharif period). The yearly releases can be adjusted so that the average of 5 MAF is maintained.
- (iv) The flow pattern for escapeages below Kotri during Kharif season (April to September) should be either greater or equal to 0.3 MAF. During the Rabi season (October to March) a flow of 0.3 MAF per month has been recommended. However in a dry year this quantity can be proportionately reduced in relation to the reductions in irrigation water supply.
- (v) Based on the post Tarbela flow data, after adjustments for water availability from sources below storages, the above recommendations would result in a required additional release from storages in low flow months of 1.26 MAF in an average year and 2.20 MAF in a typical dry year. This will require additional storage capacity to prevent a reduction of water availability for irrigated agriculture. Environmental flows should, as and when,

appropriate be routed via upper rivers before release
downstream of Kotri Barrage.

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