

BANK PROTECTION FOR VENNAR RIVER THANJAVUR, TAMIL NADU, INDIA

Longitudinal Protection

Problem

Vennar is a tributary of the Kaveri river passing through Trichy and Thanjavur in Tamil Nadu, in the southern region of the country. The right bank of Vennar river at its mile 49/2-7 in Kalanjeri village just above the Saliyamangalam - Papanasam road bridge slid down vertically to a length of about 250 metres on November 2011 because of the north east monsoon downpour at that time and got totally washed away by the flood water. The bund also served as an approach road for nearby villages and its vertical sliding disrupted the free movement of the villagers, putting them in hardship. The general public who crossed the bridge on the downstream side of this portion were also facing the threat of flood water damages at any time.

Temporary restoration works were carried out regularly but sliding continued in every monsoon season leading the department to go for permanent solution to protect the river bank.

Solution

The PWD Tamil Nadu, decided to go for an innovative method of providing a gabion structure in order to protect the river bank as well as to control erosion of the river bed. The method adopted was flexible, durable and self draining compared to conventional RCC retaining walls and also served as a permanent solution for sliding of the river bank. The client and contractor were convinced by the technical advantages and cost effectiveness of the proposed solution of using gabions.

The bank protection works were executed using gabions for a stretch of 500 metres on either banks of Vennar river. The protection measures were required at three stretches. Gabion retention of 4.5m height was designed based on site conditions and launching apron 0.3m thick and 4m wide using mattress was provided for scour protection.

After completion of the works the intended purposes were met. The gabion structure withstood two complete irrigation periods and settlements were not observed. The structure also ensured uninterrupted supply of irrigational water during monsoon season to an extent of 94,740 hectares of land in the lower reaches of Vennar river. The approach road over the retention structure established connectivity between Kalanjeri, Konur, Kovathukudi villages.

Client: Public Works Department, Tamil Nadu

Designer / Consultant: Maccaferri Environmental Solutions Pvt. Ltd.

Contractor: Sai Ram Contractors, Karur

Products used (Qty.)

- Gabion	4,750 cum
- Reno Mattress	2,000 sqm
- MacTex N	6,000 sqm

Date of construction: 03/2015 - 06/2015

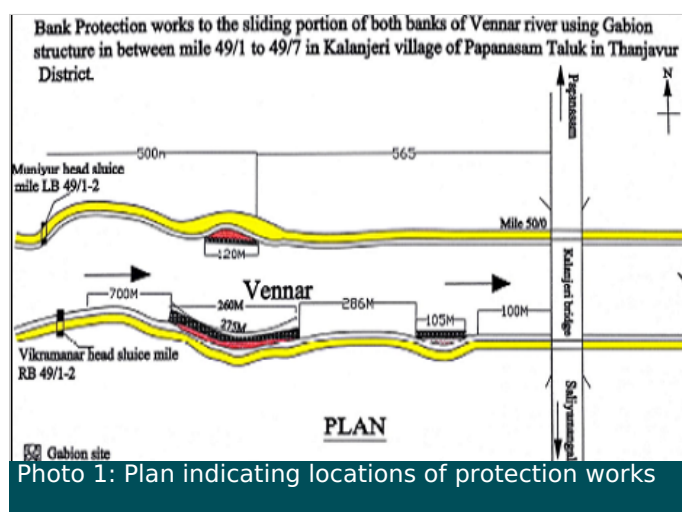




Photo 3: Construction of launching apron using mattress



Photo 4: Left bank of river immediately after construction



Photo 5: Right bank of river after monsoon with siltation



Photo 6: Photograph of the completed structure during monsoon season with full