After the intense flood in June 1987 stabilisation of the Charnawati River in Nepal became necessary at the crossing with the Lamosang-Jiri Road. A new concept of stabilising the riverbed with concrete elements arranged to flexible structures was developed and tested in a hydraulic model. Element shapes known from shore protection works were used to achieve an optimum imbrication between the elements themselves and between the elements and the surrounding bed material respectively. Because of the high gradient of the river of up to 25 % and a design discharge of 150 m3/s two different element types with weights of 10 tons and 19 tons were finally selected.

Since these heavy elements had to be manufactured directly on the riverbed and on the banks, the optimum imbrication could not yet be achieved during the time of construction. Thus, special attention had to be paid to the arrangement of the elements, taking into account their movements during the first flood events which, however, are necessary to obtain the maximum imbrication.

Construction on the site followed the development in the hydraulic model immediately. This and a major flood event after the realisation of half of the project allowed an immediate feedback and proved the efficiency of the chosen design.

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