

**IMPACT ASSESSMENT OF SLUICE GATE ON FISHING ACTIVITY, FISHERIES
DIVERSITY, RIVERINE HABITABILITY AND LIVELIHOOD STABILITY OF THE
FISHERMEN IN THE NORTHWESTERN BANGLADESH**

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ABSTRACT

The present study was conducted at the Baral river adjacent area of both Charghat sluice gate of Charghat upazila and Baraigram sluice gate of Baraigram upazila under Rajshahi and Natore district of Bangladesh respectively during the period of May 2006 to April 2007 aiming to assess the sluice gate impact on fishing activity, fisheries diversity, riverine habitability and livelihood stability of the fishermen implying the gear, catch and environmental assessment survey, in-depth interview and participatory rural appraisal through *in situ* observation. The sluice gate impacted the fishing activity of the fishermen reducing or modifying the type, structure and number of gear, emphasizing to use minute meshed gear, restricting species and gear selectivity, increasing fishing effort and intensity and decreasing catch composition under limited operating periods. The sluice gate pessimistically affected the fisheries diversity reducing the type and number of fish species including prawn, decreasing their overall and local status and thrown them miserably in extinct, endangered, vulnerable and threatened position where abundance, availability and breeding of most species dominantly hampered, changed or reduced. The sluice gate created seasonal fluctuations of watered, inundated, ditched and arid condition among aquatic habitat where substituted household, degraded cropland, broken down riverbank and sedimentation built Chars among the terrestrial habitat in the Baral. The sluice gate drastically affected the livelihood stability throw inadequate, insufficient and lower category of all the assets where incapable to full scale use of individual and group fishing and other activities by the fishermen in the Baral river.

KEYWORDS: Baral River, Sluice Gate, Impact, Fishermen, Bangladesh