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Thesis Title: The Impact of Flood Control, Drainage and Irrigation Project on Rice Production in Bangladesh

### **Abstract**

This study examines the impact of Flood Control, Drainage and Irrigation (FCDI) project on rice production in Bangladesh. Implementation of FCDI projects to grow agricultural production by controlling flood and water management is a common practice for Bangladesh. This study selected recently executed three Flood Control, Drainage and Irrigation projects which included several districts into the beneficial area. The treatment group and the control groups are identified on the basis of project location. This study employed the difference-in-differences (DID) method, in addition, to further the robustness check propensity score matching-difference in differences (PSM-DID) estimation method applied. The project impact was estimated using micro-level data that collected from Bangladesh Integrated Household Survey reports of 2011/12 and 2015. A two-wave household level balanced panel data made with a total of 678 households. In addition to estimating the effect of the project on land productivity, this study shows the effect of project intervention on the average rice cultivated area, extension of irrigation coverage, use of chemical fertilizer, adoption of hybrid and high-yielding varieties (HYV). The empirical results reveal that, due to the implementation of FCDI projects, land productivity increases significantly in the treatment group relative to the control group by about 1.2 ton/ha on an average. The land productivity of *Aman* and *Boro* season rice increased significantly in the treatment group. The project intervention competent to extend the average rice cultivated area in treatment group whereas rice cultivated area declined in the control group. The adoption practices of hybrid variety contribute to increases land productivity. The result provides evidence that the expansion of irrigation is not significant by the implementation of the project. The results imply that policy should be more concern to expand actual irrigation facilities greatly with the accomplishment of sustainable flood protection work to get entire benefit from the FCDI project.