

Title: Decoding the mystery of Bangladesh's jute decline: A climate crisis or plastic predicament**Author Names:** Sayedul Anam , Md Azizur Rahman , Md Arif Hassan

Abstract: Bangladesh is one of the areas in [Asia](#) most vulnerable to [climate change](#), with a mostly agricultural economy. Although jute was formerly an important cash crop, its production has steadily declined. However, the use of plastic products instead of jute-made goods is increasing rapidly. This study investigates whether plastic and climate change seriously threaten jute crops in Bangladesh. The dataset includes observations from 1988 to 2021, and various methods are used, including the Augmented Dickey-Fuller (ADF) test, Johansen cointegrating regression estimators, and fully modified Autoregressive Distributed Lag (ARDL). The findings show that floods and rainfall significantly harm jute production in Bangladesh. However, plastic usage which is measured by the use of plastic has no statistically significant effects on jute production. Therefore, to safeguard jute production in Bangladesh, the government should prioritize climate-resilient agricultural practices, such as improved flood management and the introduction of flood-resistant jute varieties. Additionally, promoting jute-made products over plastic alternatives can help revive the jute [industry](#) and reduce [plastic pollution](#).

Keywords: Climate changeUsage of plasticsJute productionFertilizer usageCultivated areaARDL

<https://www.sciencedirect.com/science/article/pii/S2665972724001892#:~:text=The%20findings%20show%20that%20floods,significant%20effects%20on%20jute%20production.>

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