

Refereed article

## Land Use Change in the Coastal Regions of Bangladesh: A Critical Discussion of the Impact on Delta-Morphodynamics, Ecology, and Society

Gregor C. Falk

### Summary

The article discusses various internal and external factors influencing the environmental and socioeconomic changes that have occurred in the coastal regions of Bangladesh, changes that have led to significant human displacement and migration. The transformation in traditional land use patterns, and specifically from rice farming to export-oriented shrimp cultivation for the growing global market, can be identified as having both created serious environmental and socioeconomic livelihood threats and decreased local resilience. Consequently this reduction of household resilience has forced certain vulnerable groups to leave their villages. Those affected have a clear understanding that the environmental and socioeconomic changes that they readily perceive are not linked to the effects of global climate change; rather, they clearly identify human interventions and changes in land use as the main causes of their now calamitous situation. Ironically enough, those who are eventually forced to migrate into the slums of Dhaka by an increasing global demand for cheap shrimps find new employment opportunities as low-paid workers in the country's rapidly developing garment sector — itself also linked to global production chains. In addition to this social dimension of change, the large-scale deforestation of fringing mangrove forests that has been occurring since the early 1980s has severely altered the geomorphological structures in Bangladesh's coastal sedimentary environments. The observed social and environmental problems in southern Bangladesh result from various impact factors, and as such to blame global climate change alone is a far too simplistic argument. Even the observed and further predicted global sea level rise might not increase the vulnerability experienced in coastal environments in a geomorphological context of undisturbed natural conditions. On the contrary, the delta complex would actually benefit from increased sedimentation rates and thus grow even further. As the continuous expansion of aquacultures has by now gone far beyond the capacity of the local environment to support that, the production process has ultimately proved unsustainable. A second economic transition phase has thus recently begun, with more and more industries like shipyards, textile factories etc. now replacing the former shrimp farms.

Manuscript received on 2014-06-26, accepted on 2014-11-05

**Keywords:** Bangladesh, aquacultures, deforestation, delta-morphology, ecologic and human vulnerability, land use change, migration

**Gregor C. Falk** is teacher trainer and professor at Freiburg University of Education. He is involved in several research activities related to education and learning. His research interests focus on the intermingled social and ecological dimensions of land-use and land-cover change. His publication record spans numerous textbooks for schools and universities, travel guides, and research-related papers.