Chapter 1

The Coastal Chars of Bangladesh

Excerpt from Moving Coastlines: Emergence and Use of Land in the Ganges-Brahmaputra-Meghna Estuary (Wilde, 2011)

The Ganges-Brahmaputra-Meghna can be considered to be one of the most dynamic deltas in the world. This is because the river system carries sediments originating from distant northern India and the Tibetan Plateau into the Bay of Bengal, creating a permanent process of accretion and erosion. In deltas and estuaries, the deposition of sediment is carried out by river or supplied from the sea by tidal action. The net deposition results in the growth of a delta in the estuary as newly emerged islands known as 'Chars' in Bangla. This process of land accretion is a continuous and very slow natural process maintaining land elevation and soil fertility. For the purpose of this book we are focusing on the Meghna Estuary which is the only active delta-forming estuary in coastal Bangladesh. The estuary is part of the coastal zone of Bangladesh and is being shaped by a very complex set of interactions between physical processes. Some of the key factors having a long-term effect in the estuary are: shifting of the river mouths; changing of the base level; natural hazards; and climate change. Total annual sediment discharge into the lower Meghna is on average about 1,100 million tons per year, of which about one fifth is retained in the Meghna estuary. This forms the material for land accretion in the central part of the coastal zone (Wilde, 2011).

In the Meghna Estuary the rate of net land accretion is approximately 25 km^2 per year which is much higher compared with that of the past. This further encourages efforts to accelerate the natural process by engineering interventions to gain more land which are beneficial for a country like Bangladesh, considering the population pressure. Accretion of land is also useful to cope with natural disasters (i.e. cyclones and storm surges) and climate change impacts such as sea level rise. In Bangladesh the process of land reclamation to accelerate natural accretion was started in 1956-57 by closure of channels and construction of cross-dams (Wilde, 2011). The Netherlands-supported Land Reclamation Project

launched in 1977 was one of the first systematic efforts to study the potential for land reclamation. Since then, the Bangladesh Water Development Board has carried out a number of projects using cross dams to accelerate the build-up of land. As a result, the country has so far reclaimed over 1,000 km^2 of land from the sea, South of Noakhali District (Islam, 2015).

Char areas are physically different from other parts of Bangladesh. These areas are low lying and consequently vulnerable to flooding and cyclones from the Bay of Bengal. Soils of char areas are high in salinity and low in organic materials. The youngest chars are mud flats supporting little vegetation, dissected by tidal creeks, subject to frequent flooding during high tides. The oldest chars are already consolidated lands, supporting annual cropping and more or less permanent homesteads, despite the fact that the lands are unprotected and vulnerable to extensive crop damage from cyclones (Wilde, 2000).

People migrate to recently emerged chars for a variety of reasons, primarily, because people lost their original land and homesteads as a result of erosion (this is probably the case for 80-90% of the households). When a new char becomes fit for cultivation, the river-eroded families from adjacent areas start migrating into the newly formed land for shelter and livelihood. Small numbers of families living in close association form a type of community called *Samaj* in Bangla. *Samaj* gives people a sense of security. At this stage, service delivery mechanisms from government agencies are hardly present in char areas and the private sector is usually limited to small shops. Non-Governmental Organisations (NGOs) are generally present but in less density than in other parts of Bangladesh. As a result, in the absence of a formal institutional network, a power broker, in many cases with ancestral links to newly accreted char land, tends to extend support and patronage to settlers. This type of autonomous settlement leads to a situation in which the official process of land settlement cannot start with a clean slate. Settlers are already present in new chars with active control over land before the official process has even started. Powerful people, commonly known as *jotdar*, and the settlers controlled by them, occupy the land. The immigration is illegal, because the land is under the control of the Forest Department for a period of 20 years after the start of the first afforestation activities (Wilde, 2000).

The land is subject to regular flooding. There is very limited access to drinking water, especially in winter, and no system of communication. For food, the settlers are dependent on a low-yielding rice aman crop, some rabi crops and a few fish farmed in ponds or caught in open waters. Some income is derived from tending cattle. People have no official title for the land they occupy. They are vulnerable to a set of risks such as flooding, storms and salinity intrusion.