

Development of the River Deltas of the Black Sea East Coast

G. Lominadze, G.Kavlashvili

Ivane Javakhishvili Tbilisi State University Vakhushti Bagrationi Institute of Geography,
g_lomin@hotmail.com

The river deltas located along the Black Sea coast have an important role in terms of geological and geomorphological evolution of the Georgia's coasts. They are still playing important role in the coastal zone morpho-lithodynamics. The strong anthropogenic intervention in the coastal zone made its footprint on the river deltas since the 19th century. Natural disbalance and shoreline erosion was followed by a huge economic losses. Even today this issue is crucial for the planning of new ports, communications and resort - recreational facilities, etc.

The East coast of the Black Sea is located mainly within the limits of the West Georgia. This part of the coast is mainly accumulative almost all along the river and consists mainly of river sediments of Quaternary age. In its central part is located accumulative lowland of Kolkheti, which is a united extensive delta, created by several rivers (Supsa, Rioni, Enguri, Kodori). The River Rioni among these rivers stands out by its natural parameters – water abundance, amount of solid sediments, etc. In addition on the northern and southern sections from the Kolkheti lowland are located beak-shaped, relatively small deltas, which are created by the rivers Chorokhi, Bzipi and partly Kodori.

In the conditions of abundant sediment of the rivers, sea-level fluctuations, impact of the sea waves and underwater canyons, the mentioned deltas would develop in the Pleistocene-Holocene period. At present, to the mentioned processes have been added also anthropogenic factors (construction of power plants on the rivers, removal of the great amount of the sediment from the river beds, artificial shifting of river tributaries etc.) which drastically changed the development of the deltas. The example: In 1939 in the southern part of Poti artificial redistribution of the main flow of the River Rioni delta to the north caused significant changes: 1. The intensive wash-out of the south coast of Poti; 2. The intensive accumulation to the north from Poti or the emergence of a new delta in the place where, the main flow of the river came.

The River Enguri and River Chorokhi deltas also are undergoing important changes, as near their mouths are located submarine canyons, where an important volume of the river sediment is flowing into the depths and is being lost. In the conditions of the sea level elevation, during reducing of the sediment loss increases the sediment accumulation in the delta, which contributed to the preservation of its shape. Today this process is interrupted, because the rivers are no longer taking out to sea a significant volume of sediments, which will lead to a strongly negative change in the shapes of the deltas.

In our opinion, study of the current stage of the Georgian coastal zone in terms of morpho-litho and litho-dynamic is very crucial. It should be noted that in terms of serious scientific research and practical steps have yet been taken in the 80s of the 20th century. Renovation of the targeted research of the coastal processes would be a major step in terms of both academic research and justification of practical recommendations.

