

**Abstract** Geographical distribution of soil salinity, alkalinity, calcicity, soil texture, and organic matter (grid system-log distance of 2 km) has been evaluated and mapped in the study area (about 770 km<sup>2</sup>) using GIS-ILWIS format. It is found that in the soils of Tamia District, ECe ranger between 1.22 and 22.4 dS m<sup>-1</sup> and 1.03 and 97.1 dS m<sup>-1</sup> in Fayoum District soils within the top layer. Results show 91.5% of Tamia soils and 56.5% of Fayoum District soils present ECe > 4 dS m<sup>-1</sup>, indicating that salt-affected soils are distributed throughout the study areas About 94.5% of Tamia soils and 30% of Fayoum soils are calcareous (>10% CaCO<sub>3</sub> eq), due to the





**Fig. 14.1** The political map of Egypt and the map showing location of the study area







In a previous study (Abd El Motaleb [2002](#)), remarkable increase in soil salinity  
lenamiasoil s irrigated with mixnater(Adrainage wnatermix

**Fig. 14.3**





districts could be managed through improving such as by appropriate land uses, suitable agricultural practices and management, efficient drainage and irrigation systems, selection of salt-tolerant plant species based on salinity problem, and fertility management.

#### **14.3.1.1 Soil Reaction (pH) in Tamia and Fayoum District Soils**

The pH levels of saturated soil paste and their distribution throughout the study area





Fayoum soils. The CaCO

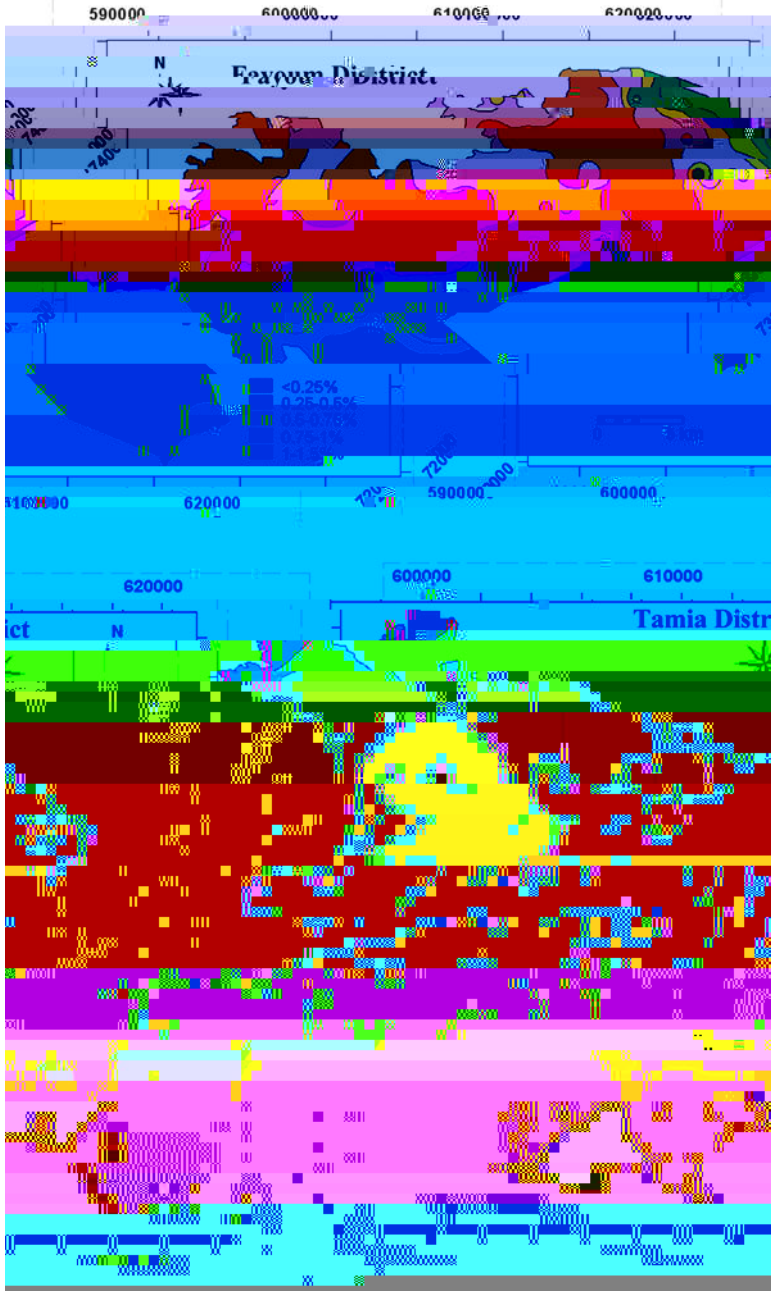


Fig. 14.7 Organic matter content in the upper 30-cm soil









