

**ENVIRONMENTAL IMPACT OF SMALL-SCALE SALT MINING ON SOCIO-ECONOMIC  
ACTIVITIES IN THE KOMENDA-EDINA-EGUAFO-ABREM DISTRICT IN THE  
CENTRAL REGION**

**Aniapam, Ampem Darko**

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**ABSTRACT**

The study involved analysis of water samples from wells, salt pans and lagoons as well as soil samples in the proximity of areas in communities where small-scale salt mining activities is undertaken in the Komenda-Edina-Eguafo-Abrem (KEEA) District. In addition, a social survey and detailed observation of anthropogenic activities were also made to determine the effects of small-scale salt mining on the environment, and how these environmental impacts affect socio-economic activities in the study area.

Results obtained from analysis of water taken from the wells gave values ranging from 4.1 to 8.3 (mean=6.7), 1730 $\mu$ S/cm to 9900 $\mu$ S/cm (mean=4628 $\mu$ S/cm). 1.4NTU to 4.7NTU (mean=4.7NTU), 895mg/l to 3790mg/l (mean=1904mg/l) for pH, conductivity, turbidity and TDS, respectively. Salinity, Ca, Mg and Cu, had values ranging between 0.8mg/l and 6.0mg/l (mean=2.6mg/l), 80mg/l and 400mg/l (216mg/l), 146mg/l and 534mg/l (mean=224mg/l) and 0.1mg/l and 7.5mg/l (2.3mg/l) respectively. Faecal coliform contents recorded also ranged between 40cfu/100ml and 300cfu/100ml (134cfu/100ml). All these were far above the EPA (Ghana) acceptable limits. The results obtained from analysis of the lagoons and the salt pans were also higher than the EPA acceptable limit, though those recorded for the wet season were lower than those recorded in the dry season. A combination of the above has rendered water from wells in the study area unfit for domestic use. Salinity content and total hardness of the water are at such levels that the water is very difficult to use for drinking, washing and other domestic purposes. As a result, water for domestic use and other commercial activities is bought at an extra cost to the residents in some of the communities in the study area.

The nutrient contents of the soil in the study area were not far below the Booker Tropical Soil Manual acceptable range for most crops. The organic contents of the soil are, however, very low with values ranging between 0.2% and 2.0% and 0.3% and 3.4% recorded. Recorded conductivity values were between 80mS/cm and 5430mS/cm. Values recorded for nitrogen and potassium were between 0.01% and 0.1% and 10.5 and 66.5mg/kg, respectively. This is an indication that soils in the study area are not fertile probably due to the activities of small-scale salt mining in the study area. Gardening at the

immediate outskirts of the communities, which was a previous pastime of most inhabitants, has reduced. Those who are involved in full time farming are also moving further inland to farm.

The social survey and the observations made indicated that large tracts of mangroove forest along the banks of the lagoons have been cleared to make way for the construction of salt pans. The mangroves served as source of fuel for domestic use in some of the communities as well serve as firewood for fish smoking and boiling of brine in the production of salt. Again, areas occupied by the mangroves served as hunting grounds for fish, crabs and migratory birds which are either consumed or sold for money. Destruction of mangroves has led to a reduction in the above mentioned activities.

Despite the apparently negative impacts that small-scale salt mining may be having on the environment, many inhabitants in the study area, especially women still want salt mining activities to be undertaken of the benefits derived by way of employment and income.

## **SUPERVISORS**

**Dr. Frank K. Nyame**

**Dr. P. K. Ofori-Danson**

**Dr. Alex B. Asiedu**