1. Introduction

The ecological factors like temperature, light intensity, salinity and other factors have great effects on the aquatic microorganisms and water quality which considered the main factors controlling the state of health and disease in both cultured and wild fishes. Aquatic microorganism like bacteria and algae affected by the ecological factors which reflect on water quality.

Temperature as example when increases all the activities of microorganisms increase therefore the amount of available oxygen reduced due to the increase of organisms demand. The decreases of temperature can limit various biological processes.

This present study was carried out to investigate the effect of some ecological factors on the aquatic microorganisms (bacteria and algae) and water quality in aquaculture. The study included the ecological, biological and chemical factors which affect directly and indirectly the aquaculture. Fisheries and aquaculture in Egypt are important component of the agricultural sector and consider a significant source of animal protein. They account 3.9% of agricultural production and represent 14.1% of total livestock and poultry production by value. (FAO, 1994)

The study had two experiments conducted from July to October 2004. The first one was conducted in World Fish Center fish farm at Abbassa Abou-Hamad, Sharkia Governorate and the second conducted in the region of Baallwa, Wadi El-Mollak, Ismailia.

The two field experiments aimed to achieve the following goals:

- Determine physico-chemical properties of water under different both conditions and treatments.
- Determine primary and secondary productivity (phytoplankton and

zooplankton)

- Estimate the total bacterial count in the water under different both conditions and treatments.
- Determine proximate composition of reared fish (protein, fat, ash).

There were three laboratorial experiments to study the effect of some ecological factors (temperature, light intensity and salinity concentration) on the growth of *Chlorella vulgaris*.