CHAPTER ONE.

INTRODUCTION

Water is known to contain a large numbers of chemical elements [Huthlin Edward,2013]. Physical parameters such as temperature, turbidity and current are also known to operate in lake ecosystem (ECOSYSTEM).Water quality is influenced by several factors, including physical, chemical and biological properties. Among these physical increases pollution from industrial discharge, agricultural runoff and domestic waste.

Poor water quality can pose serious risks to human health, aquatic life and industrial processes.For instance,high turbidity in drinking water sources can reduce light penetration,affect aquatic ecosystems and indicate the presence of suspended particles,some of them may harbour harmful microorganisms. Similarly, deviations in water temperature can impact biological processes, including the survival of aquatic species and the rate of chemical reactions in water.(Williams Smith 2015)

Assessing the physical properties of water is essential for environmental monitoring and public health safety.The WORLD HEALTH ORGANIZATION(WHO) and national regulatory, agencies have established water quality standards and preventing waterborne diseases.(Johnson clech 2010). The proper balance of physical, chemical & biological properties of water in ponds,lakes, rivers and reservoirs is an essential ingredients for successful production of fish and other aquatic resources.In many developing regions inadequate water quality assessment leads to the consumption of unsafe water, resulting in health challenges such as cholera, typhoid and other waterborne illness.

Additionally, industrial and agricultural users require water if specific quality standards to ensure efficiency and prevent equipment damage. Studies have shown that water rich in Silica,will contain a high population of diatoms (Pasclic 2011) while high species diversity of snail could be explained by high concentration of calcium (Williams 2016). Also high concentration nitrogen and phosphate is indicate of entroplication that may lead to Algae bloom and consequently deoxygenation.

Physical properties such as light penetration, temperature and water movements have been shown to play important roles in plankton's distribution and water stratification.The physical and chemical innology if a lake is characterized by hydrologic impact autogenic nutrient dynamics and biological aspects.These factors combine with each other determine the water quality and consequently community of the water (Sidnat et al 1992). Though,some works have been done on the accessment of physico-hemical properties of water in some areas in Nigeria these includes the works of Adeniyi(2016) on Jakara reservoir (Adeniyi et al) on Kanji lake.

In many developing regions in adequate water quality assessment leads to the consumot ion of unsafe water, resulting in health challenges such as cholera, typhoid and other

waterborne illness. Additional industrial and agricultural users require water if specific quality standards. The assessment of physico-hemical properties of water can be significantly altered by human activities such as various agricultural practices and irrigation as well as natural dynamics which consequently affect the water quality.

1.1 AIM OF THE PROJECT

The aim of the project is to assess the physico-hemical properties of underground water in AKUO for domestic purpose.

1.2 OBJECTS OF THE PROJECT

Specific objective of this project are to;

i. collect the water sample

ii. determine the physico-hemical properties of the water and compare with WHO standard.

1.3 JUSTIFICATION

The project work will lead to the following advantages;

i. The result will enable the villagers to know the water.

ii. It encourages student & villagers to rest the water for drinking purpose in order to reduce the water infections.

iii. It will enable villagers in AKUO to know the possible problems that may occur when drinking contaminated water.

1.4 SCOPE OF THE STUDY

The scope of this project is limited to investigate about the physico-hemical properties of drinking water in AKUO i.e taking of water sample, carry out experiment on the water to determine the qualities of water sample for domestic purpose