An ecosystem is a biological environment consisting of all the organisms living in a particular area, as well as all the nonliving (abiotic), physical components of the environment with which the organisms interact, such as air, soil, water and sunlight. In an ecosystem organism and its environment are two inseparable entities. The environment being labile, no organism is ever subjected to constant environment conditions. Now a days all the natural resources are being gradually destroyed by scientific devices mostly by establishment of industrial enterprises. The mismanagement of the natural resources, large scale deforestation, discharge of toxic and hazardous substances into the environment and by the reckless actions of man against nature have boomeranged and they are threatening the life on earth.

India, being a developing country, has had to face several economic and political challenges. One of the most important problems is the population explosion. Population explosion is the most serious problem facing our country today. With 16 percent of the world’s population, India is toady the second largest populations’ country in the world. The population explosion brought in need for increasing the agricultural productivity. In doing so the use of fertilizers and pesticides has been resorted in an effect to increase the crop yield and to fight against pest menace respectively. Eventhough the pesticides should be used very judiciously, but their use became indiscriminate. Consequently, the target pests are offering more resistance to pesticides, while the non- target organisms of economic importance are being victimized. This is not only disrupting the ecological balance but also posing a serious threat to human health as they leave residues in the food and produce ill effects, when the concentration exceeds safe tolerance level.

The term "pesticides" is a composite term that includes all chemicals that are used to kill or control pests. In agriculture, these include herbicides (weeds), insecticides (insects), fungicides (fungi), nematocides (nematodes), and rodenticides (vertebrate poisons). Agricultural use of pesticides is a subset of the larger spectrum of industrial chemicals used in modern society. The American Chemical Society database indicates that there were some 13 million chemicals identified in 1993 with some 5,00,000 new compounds being added annually. In the Great Lakes of North America, the International Joint Commission has
estimated that there are more than 200 chemicals of concern in water and sediments of the Great Lakes ecosystem.

Because the environmental burden of toxic chemicals includes both agriculture and non-agricultural compounds, it is difficult to separate the ecological and human health effects of pesticides from those of industrial compounds that are intentionally or accidentally released into the environment. However, there is overwhelming evidence that agricultural use of pesticides has a major impact on water quality and leads to serious environmental consequences. In a recent survey in the agricultural western provinces of Canada where some fifty pesticides are in common use, 95% of the total pesticide application is from nine separate herbicides (Birkholz, pers. comm., 1995). Pesticides vary from volatile liquids to waxy and crystalline solids. The pesticides are majorly classified into three groups, organochlorides, organophosphates and carbamates. Most of the three groups of pesticides are known to persist for long periods in the environment, and their concentrations build up geometrically as they are transferred to different stages of food web in the ecosystem.

As the industrial and technological revolutions that had taken place in the recent times one of the most contributory factors concern to the general public over pesticides is the tremendous improvement in analytical techniques. However, information on various effects of organophosphate insecticide Phorate, on non-target organisms, particularly freshwater forms, is limited. Hence, in accordance with man’s progress in science and technology, it is necessary to analyse the effects of this pesticide at least in the economically important non-target organisms, so as to take any suitable measures for saving the lives of those animals and also indirectly human beings.

So the author in a humble way has chosen a small segment of this subject, and planned to go through the work, this work is modest attempt of the author towards understanding the toxic potentiality of the organophosphate insecticide Phorate in different metabolic activities of an edible freshwater fish *Cyprinus carpio*. To make the work meaningful the commercial grade pesticide was used in this study so as to assess the effects of this compound on the fish since this commercial grade pesticide is used in agricultural practices. This study is far from being comprehensive, yet the author remains hopeful that the present study would contribute useful information to the existing knowledge on the evaluation of toxicity of phorate to the fish.