1.0 INTRODUCTION

Man interacts with the environment in various ways. To meet the needs, the human activities have impact on environment. Man exploited the natural resources to meet his basic needs- food, shelter and security. The technological revolution and ever increasing trend towards urbanisation and industrialisation provided luxury to human life. But the result of the above activities contributed to deterioration of the environment. During recent years, the growing population and rapid industrial growth have threatened the ecological balance. Human activities cause drastic alteration to the natural ecosystem resulting in permanent or irreparable damage. The cumulative effects of the unplanned exploitation in the past, for comfort, resulted in the present day consequences such as pollution, soil erosion, deforestation and many other adverse natural phenomena.

Analysis of environmental impact are performed to provide the knowledge to resolve the conflict between human goals and natural processes. The concept of Environmental Impact Assessment (EIA) represents one of the goals for integrating economic growth and proper planning for conservation of the resources. The term EIA is a process of examining an activity/activities for its environmental effect. It was felt necessary to indirectly assess the environmental impacts due to project development. In earlier days, in developing countries, no or little attention was given to protect the environment. But such negligence has never benefited in the long run. However EIA is an environmental cost benefit equation except that the various items are not strictly calculated in monetary terms. Therefore, the basic
element of EIA is identifying the impact, predicting their magnitude and recommending remedial measures.

Choudwar city is popularly known as industrial capital of Odisha. The area has an intensive industrial complex. Choudwar Steel Plant, a giant integrated steel plant being the largest amongst all. Due to the establishment of Choudwar Steel Plant (RSP) with two thermal captive power plants and a gas based fertiliser unit, rapid growth of ancillary industries has taken place since late sixties. The area is full of mineral resources. Iron ore is the main reserve in the nearby surrounding area. Other mineral resources such as limestone, dolomites etc. are also available in abundance. With such abundance in the availability of raw materials, there has been a number of industries established in the area.

There are number of surface water resources in the area. Choudwar is well communicated by rail, road and air. Raw material for different industries is supplied by RSP. Therefore, a detailed network was able to be developed with less investment. The market for industrial products are mostly met by Calcutta which is well connected by air, road and rail. All these advantages accelerated the industrial activities in the area. This resulted in indiscriminate disposal of waste into the environment. The industries existing in the area having no or inadequate pollution control measures. The industries used to discharge partially treated or untreated liquid effluent to the nearby stream or river. As a result the quality of water in the nearby stream and river has been deteriorating.

The exponential growth of industrial activities in the area results in a radical change in land use, deforestation and decreasing of cultivable land. This is causing a serious ecological
imbalance. With the continuous increase in the industrial and commercial activities, the transportation of raw material as well as product by road has also increased. This has added to the air pollution problem of the area due to auto exhaust.

The major objectives of the study are summarized as follows:-

1. Study of the existing environmental conditions.
2. Identification of various sources of pollution.
3. Analysis of impact of the pollution on the environment.
4. Prediction of pollution level due to point sources in the area.
5. Recommendations for effective pollution control.

As the industrial growth is an ongoing process in Choudwar area, the environment of Choudwar area is likely to deteriorate further. Through better planning and by closely monitoring industrial development activities, impact study will serve a baseline information of existing environmental quality of the area. This base line study will help in sitting of new projects and to assess whether the area can take up such extra pollution load. Further, this study will also help in development of new residential colonies from the projects, so that people are least affected. This study will also help the industries to have better control and management of pollution.

The study includes qualitative and quantitative evaluation of environment. Data have been collected from both primary and secondary sources. Primary sources includes the field survey, collection and analysis of various samples of air, water and soil. The secondary sources include collection of literature records, documents and maps etc. from different
government, semi government and private organisations. The collected data have been processed, computed and tabulated in various ways to fit into the problems. These have been interpreted and analysed with the help of various techniques.