Preface:

One more detailed study in the field of income distribution and income inequality measurement. There are two reasons for it. Firstly, it was found that no suitable literature is available in a single place/form which has dealt income distribution with mathematical treatments. It was therefore necessary to compile the literature on this subject and present it in a form, which will take care of the deficiency that the students of econometrics face. Secondly, while doing extensive study on pareto distribution of different types, author tried to develop a process of evaluating poverty line within a group of people.

This concept is new and needs serious scrutiny to make it more useful. Effort is made to place this method through this thesis so that it gets the attention of the experts of this subject. Their useful suggestions will make the method more meaningful. With limited resource of relevant material it was an awesome task to step into this investigation job. Even the seven years time was not sufficient enough to compile the required information scattered in different libraries of the country in different forms such as books, journals, project report, government publications, World Bank publication etc. It was more tedious for the simple reason that application of mathematical treatment in economic theory is not very popular in India. Therefore, analysis of data is always done without much mathematical applications. Consequently, the literature contained mainly the economic theoretical approaches.

There was no choice than to extensively search for the literature and analysis which contained detailed study of the mathematical models used to measure income distribution, income inequality, standard of living, poverty etc. Unfortunately, most of these studies are based on the system of free market economy, like, united states & Canada on one side and United Kingdom, Germany, France and other parts of Europe on the other. The economic structures of these countries are more or less similar having almost identical income distribution with almost similar inequality index [4,18].

This is not true in Indian subcontinent. Last 50 years, India maintained that involvement of Government participation in production is beneficial to its people. Whatever be the reason
behind this policy, with the adoption of new economic policy. This logic is no longer being stressed. Though the concept of mixed economy will remain for some more time but the steps to open the doors of free economy are being taken. The study of income distribution is more relevant now to check whether the impact of starting open economy really helps poor. It is tried to make the mathematical treatments easily understandable. Income distribution is a very old problem. It needs constant study. With the change in basic economic thought of the country, there is bound to be a change in the society’s income distribution. It needs attention by the scholars of economics.

This document contains six chapters. The first chapter being the introduction. The topic of income distribution is introduced. Planning process is discussed in detail. Benefits of cooperative sectors are discussed. Sen's observation of Pareto optimality and fundamental theorems was given. His comment on measures of inequality was also covered. The important fundamental theorems given by Sen were also discussed. This chapter was concluded with a few words on convergence and Cob-Web model.

The second chapter has two parts. The first part deals with the income distribution models and the income inequality concept. The mathematical interpretations could not be avoided, though sufficient efforts are taken to make it as lucid as possible. The second part contains a new concept of calculating poverty line. On the line of statistical quality control chart, an effort is made to calculate the upper control limit (for super rich people) and lower control limit (utterly poor people). This lower control limit is termed as poverty line. Anybody falling below this line will be known as person falling below the poverty line. As this concept is new, it needs lot of investigation.

The chapter three deals with the methodology of the survey. The multistage sampling technique, along with the simple random sampling procedure that is followed for selecting villages and households were discussed. The objectives and the different hypothesis were listed in this chapter.

The chapter four is entirely devoted to analysis of data. It has three parts. As the basic mathematical model is taken to be Pareto, main emphasis was given to test whether the income distribution data follows Pareto or not. The first part begins with a compact
computer programme in C++ language. This programme is so prepared that, given an income data of any number of population, it will automatically calculate, Gini coefficient, different Lorenz curve parameters, upper control limit, lower control limit, average income, number of people falling below the poverty line, number of super rich people etc. This programme has made all these tedious calculations easy. In this part itself, different types of analysis is done with respect to income, education and land ownership.

In the second part, though 71 villages are selected and data collected, calculations are done in two stages. The first stage covered randomly selected six villages and the second stage covered all the 71 villages.

The third and the last part of this chapter was devoted to health problem which is acute in Melghat region. The malnutrition problem is taken care of. With the help of different tables, charts and calculation analysis is done from all angles to find ascertain the actual situation. Recently, supreme court has ordered government of Maharashtra to submit the information regarding the authenticity of a news item that two hundred thousand children die every year in Maharashtra (Lokmat Nov.22nd, 2001). All relevant hypothesis were tested and conclusion given.

In the fifth chapter the various assumptions and the interpretations are given. Different developmental schemes, being implemented by government of Maharashtra were discussed. The findings are compared with the schemes and their relevance was interpreted. The working of Non-government Organisations (NGO) are also discussed at the end of this chapter.

In the sixth and the last chapter, the present situation of implementation of different developmental schemes was discussed. A new concept of workshop-estate was introduced. Importance of the role of local bodies was discussed. Different suggestions which are feasible were given to enhance the living standard of tribal population of Melghat area which is the area of this study.