Chapter 1

Introduction

1.1 Issues

Growth is a pervasive phenomenon. It is like a strong tide which brings everybody up from the narrow rivulet to the wide open ocean. It opens possibilities that are innumerable. New dimensions are enlivened hopes ignited and realisation endorsed.

In their recent book “An Uncertain Glory: India and its Contradictions” Sen and Dreze (2013) argued in integrating growth with development. Growth brings possibilities but they have to be reaped. Tides open new possibilities of growth but also shipwrecks, particularly if one is ill prepared for it. For example, establishment of a new industrial unit in a backwater creates employment opportunities. However, they can be reaped only if a person is properly skilled. For the unskilled ill educated populace of the backwater this avenue is closed. For them, the only solace is the new type of informal job created around the settlement. This may improve their standard of living but reduces their social status from a free independent farmer to the informal petty job holders.

Our concern is agricultural growth. Numerous debates have been raised regarding the pace and sources of the agrarian growth process in India. This is an important issue and has its own significance. In a country where about 70% of rural people are directly engaged in agriculture, the problem cannot be neglected. Our study also contributes to this end. We have searched for the pace and pattern of growth dynamics across the cross sectional variation of the country. Our study is a district level analysis across some of the major states of India.
The issue however does not end here. Growth has a normative aspect – it influences on the welfare of the people. It was a seminar work of Kakwani (1991 and 1997) that first discussed normative aspect of growth delving deeply into the relationship between long run and short run growth. Kakwani (1991 and 1997) was able to sort out a weighting structure appropriate for a social welfare function. The structure was adopted by us in the context of Indian agriculture. This would help us to unravel the welfare complexity behind the agrarian dynamics.

In the current decade another issue related to growth is the dimension of efficiency. There are two ways in which output can be increased without using the current level of resources – the technical change and efficiency change. The concept of TFP is developed to capture this niceties’ of growth. Our study incorporates the TFPG analysis in the context of the Indian agriculture. Interestingly TFPG is different from simple growth. It is the effect of combine input uses and technical changes. The cross sectional analysis of TFPG relates output changes in input uses.

Again the ethical dynamics of TFPG is rarely covered. In this respect a path breaking work is done by Rao and Coelli (1999). This work tries to capture the impact on social welfare due to change in the output per se. The inequality indices (such as gini - coefficient) has been utilised for capturing the welfare dimension of growth. The methods developed in the model can be used to chart the welfare changes when growth occurs. Agrarian TFPG analysis by us have utilised this approach.

Lastly a direct link between Total Factor Productivity Growth (TFPG) and some basic parameters of social welfare have been analysed. It is interesting to find out whether an expansion of the TFPG can help to reduce rural poverty. Growth without sufficient impact on welfare is a Mormon’s voice. We may be elated at observing a very high growth rate. However, such a elation is illusive unless and until it can bring a meaningful change to the lives of people who are connected with it. Our study is a modest attempt to bring out the issue in the context of agrarian changes in India.

1.2 Plan of the Study

Our study is divided into eight chapters. Chapter 2 provides a brief review of existing literature for studying welfare enhancing growth and efficiency in Indian agriculture. For the purpose of analysis we will segregate the existing literature in two
parts- 1) existing literature related to growth in Indian agriculture and 2) literature related to efficiency in Indian agriculture. In this chapter we have briefly reviewed the major works that have been done in the context of growth as well as efficiency in Indian agriculture that have been done by various researchers on this topic. These reviews will help us to find out the gaps in the existing literature and pave out for our study.

Chapter 3 provides a brief description of data and methodology used for our empirical analysis. The data that have been used is collected from three main sources. For the analysis of welfare enhancing growth measure of Indian agriculture, the required data have been collected from The Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India. For the analysis of efficiency of Indian agriculture, we have used the data on relevant parameters published by G.S Bhalla and Gurmail Singh on their book ‘Economic Liberalisation and Indian Agriculture – A District Level Study’ (2011). Finally to provide a link between TFPG and poverty we use the District Level Household and Facility Survey (DLHS) Data compiled by The Ministry of Health and Family Welfare (MoHFW), Government of India.

In chapter 4 we have discussed the imperatives of growth rates. Traditionally, there are two types of growth rates- i) long-run trend growth rates also designated as Least squares Growth rates (LSGR) and ii) period-to-period instantaneous growth rates. Kakwani (1991 and 1997) in his paper tried to find out a link between the two. In the process, he was able to derive a weight structure linking LSGR and Instantaneous Growth Rate. However this particular weight structure is rather arbitrary. Kakwani (1991 and 1997) devised alternative structure of weight structure deriving different types of growth parameters. These alternative growth rates gave varying emphasis to the differing time points thereby giving a clue to the improvement, stagnancy or enhancement of growth over time. Thus they could be profitably used as alternative measures of convergence or divergence. There may be an acceleration, or deceleration or stagnancy. As for convergence there are both catching up and falling down. However, the entire analysis here is positive. No reference is made to the concept of social welfare.

The positive growth measures are subjective and have no direct welfare implications. Normative growth involves assertions about the corresponding social welfare. In chapter 5 we have discussed about normative measures of growth.
Incorporating Kakwani’s (1991 and 1997) overall growth index which have welfare theoretical implication. We introduce the concept of welfare enhancing growth rates and finally an empirical investigation has been made in the context of Indian agriculture. In order to bring out the percentage change in welfare in the context of Indian agriculture a short period analysis also capture by dividing the entire period of our analysis into two sub periods.

In chapter 6 Data Envelopment Analysis (DEA) is applied to measure the structural efficiency of firms for four agro climatic zones in India. We first provide a brief discussion regarding the DEA methodology used for estimating the productivity index. Then we provide empirical results based on zone wise data in India. The relative performance of the agricultural sector was gauged using DEA. Mathematical programming methods were used to measure Malmquest indices of Total Factor Productivity (TFPG). In this chapter we also study the temporal dynamics of efficiency by constructing Concentration Curve as well as window analysis. Finally we also discussed about the component measures of total factor productivity through the decomposition analysis.

In chapter 7 we have discussed the nexus between efficiency and growth. The chapter examine the agricultural performance of Indian districts using input output data set and latest techniques of analysis given by Rao and Coelli(1999). An interesting aspect of the study is the attempt to incorporate the level of inequality directly into the Data Envelopment Analysis in order to examine possible trade-offs between growth in agricultural output and inequality. A direct relation between TFPG and some basic parameters of social welfare have been addressed in this chapter. We find out whether an expansion of the TFPG can help to reduce rural poverty.

In chapter 8 we have concluded and given the major findings of the study. Given this background, we can now check out our objectives.

1.3 Objectives

- To analyse the agrarian scenario of selected states using several growth parameters using Kakwani’s (1991 and 1997) method.
- To unravel welfare implications of alternative growth measures.
- To counter pose efficiency along with growth using TFPG study.
• To understand welfare implications of such efficiency embedded growth measures.

In this introductory chapter we have briefly stated the issues involved and the objectives of our study. However to gauge the problem more critically it is necessary to look at the existing literature on this topic. This would help us to bring out canvas on which the picture can be drawn. This is the task we have undertaken in the next chapter.