CHAPTER-I
INTRODUCTION
Agriculture plays a pivotal role in the economy of the State of Andhra Pradesh. More than 70 percent of its population, directly or indirectly, depend on agriculture for their livelihood and its contribution to the State’s income is about 50 percent. The share of food crops in the gross value of agricultural production is 40.6 percent. The contribution of paddy to the gross value of food production of the state is estimated at 76.1 percent. Paddy accounts for 28.25 percent of the State’s gross cropped area and 36.26 percent of the State’s gross cropped area devoted to food crops.

Andhra Pradesh ranks second in acreage and sixth (15.3%) in production of paddy in India. It is considered the ‘Rice Granary’ of South India. Paddy is grown throughout the year, kharif paddy with an area of 25.03 lakh ha. (72.15%) is far more important than rabi paddy which occupies 9.66 lakh ha. (27.85%) of the total paddy grown in area in Andhra Pradesh. Kharif paddy accounts for 67.0 percent while the share of rabi paddy is only 33.0 percent.

Among the different paddy growing regions of Andhra Pradesh, the present study area of southern coastal region occupies an unique position in the paddy economy of Andhra Pradesh. It contributes 55 percent to the state’s total paddy production and constitutes about 48 percent of the statistics referred in this chapter pertain to the Agricultural year 1979-80.
total paddy area of the State. The study area is popularly known as the 'RICE BOWL' of the State.

Yield Constraints

Though the per acre yield of paddy has gone up due to adoption of new technology of production during 1969-70 to 1979-80 by 41.2 percent, there is still a wide gap between potential yield and actual yield obtained by the cultivators due to yield constraints. Among the biophysical constraints, impeded drainage, late seasonal rains (September-October), Cyclones (November), heavy pest and disease incidence, deteriorated soil condition, high soil nitrogen and deficiency of certain micro-nutrients are some of the important constraints responsible for the gap between potential and actual yields. Among the socio-economic factors that are responsible for the situation, mention can be made of unremunerative product prices, lack of knowledge and technical know how, ill-developed markets and unfavourable input costs.

Unless the constraints for each of these are identified and appropriate remedial measures taken, the yields cannot be increased. Concerted and continuous research in related fields to find effective solutions of the constraints alone can help the farmers achieve a major breakthrough.
Our farming situation in general reveals an extremely weak management base. Despite new technologies now available, there exists a gap between potential and performance, because the management aspect was neglected in the development programmes for transforming traditional agriculture into modern one. Our farmers do not have experience in appraising, rapidly the changing input-output and price relationships, tailoring new practices as per requirements and in arriving at decisions concerning change. Management has to identify farm problems of the farmers.

For stepping up agricultural production, management of scarce resources adds a new dimension. The quality of management is crucial in realising the gains of new technology particularly in narrowing the research-cum-extension gap. Some of the earlier studies revealed that management is a bottleneck under current conditions of farming and that new technology in agriculture would call for increased levels of managerial ability.

**Impact of Technical Change**

The key element of the Green Revolution has been the introduction of new production technology with high yielding varieties (HYV) at its core. The increase in production of paddy in Andhra Pradesh has been the result of this technical change. There has been little change in the farm policy or farm organisation since mid-sixties.
Despite rapid increase in production and productivity in paddy as a result of the Green Revolution, some researchers have expressed their apprehension of "Second Generation" and or "Third Generation" problems in the wake of the Green Revolution. In their view, the main beneficiaries of the Green Revolution have been the large farmers (early adopters).

The small and marginal farmers (late adopters) have not been benefitted much while the agricultural labourers have possibly become worse off. Disparities in income have increased and the stability of rural life and social justice have been jeopardised.

Apart from its impact on income distribution, the Green Revolution has also affected the levels of employment and its distribution over different months of the year. Many persons have been deprived of their traditional jobs and have been driven to the brink of starvation. As such, to what extent have those effects of technical change on employment and functional income distribution in the paddy economy of Andhra Pradesh been pronounced? This is a question which deserves careful examination.

**Scope of the study**

The acreage under HYV paddy, particularly in the study region of Andhra Pradesh during the recent past
has increased phenomenally and it has attracted more and more entrants into this new venture. Several ambitious plans are on hand to bring the entire paddy area under the HYVs as speedily as possible. Factual data on comparative economic performance of HYV in general and particularly on different size farms have not been generated on a systematic basis. Various farmers' forums claim that the Minimum Support Prices fixed for paddy have not been remunerative. The present study envisages not only to estimate costs and returns but also proposes to verify how far the demands of farming community for upward revision of the statutory minimum prices are genuine.

The study aims at an exploration into the allocative and resource use efficiency among different size groups of farms, farm types (HYV & LV) and seasons and also attempts to determine the potential increases in their farm incomes through better use and better management of resources at their disposal. The study also contemplates to identify inefficiencies in the resource use pattern. It is believed that there is a wastage in the use of fertilizers and farm labour and this needs an in-depth study. The present investigation also attempts to analyse some related issues which have been the subject to debate in recent literature namely, the nature of relationship between farm size and resource productivity.
and relevance of market wage rate for the valuation of family labour for determining its optimum use.

A related issue proposed to be examined is the exact nature of technical change involved in switching over from local varieties (LV) to high yielding varieties (HYV) of paddy production. Furthermore, this investigation aims at evaluating the impact of technical change on different categories of farms with respect to employment and distribution of functional income.

In the face of conflicting views and inadequate empirical evidence on various issues related to the HYV programme, the findings of this study are expected to provide adequate basis for policy decisions on the minimum support prices, on labour use and on the rational use of inputs like fertilizers. They may also provide a direction in which the reorganisation of resources should take place in paddy production so as to increase farm income.

Specific objectives

Keeping in view the paucity of information on the issues raised, the present investigation has been undertaken with the following specific objectives:

1. To appraise the costs and returns of high yielding and local varieties of paddy according to season and farm size.
ii. To assess the resource availability and resource use efficiency in paddy farms in both the seasons by different size groups.

iii. To estimate returns to scale on paddy farms by season and farm size.

iv. To determine the nature of technical change involved in shifting from local varieties of paddy to high yielding varieties of paddy (kharif season).

v. To evaluate the impact of technical change on functional income distribution and employment.

The following hypothesis are set for testing:

1. The technology of producing high yielding varieties of paddy is 'neutral to scale'.

2. HYV technology is labour as well as capital intensive.

3. There exist no significant differences in costs and returns between HYVs and LVs of paddy cultivation within and between seasons and farm sizes.

4. There exist differences between HYV & LVs of paddy in resource productivity and resource use by seasons and farm sizes.
Plan of the thesis

The first chapter introduces the problem, specifies the objectives and states the hypothesis to be tested. A critical review of the past work is presented in the second chapter. The methodology adopted and the analytical tools employed are explained in the third chapter. Chapter four provides description of the techno-economic features of the study area. While chapter five gives the structure and resource endowment of the selected farm holdings. Chapter six deals with the analysis of costs, returns and measures of farm incomes, while chapter seven presents details of resource productivity and resource use management. The eight chapter deals with the nature of technical change and its impact on income and employment. The summary and conclusions of the investigation and their policy implications are incorporated in the last chapter.