CHAPTER - 1

INTRODUCTION

Agricultural labourers who form the lowest strata of the rural population are those who are employed for wages in the process of crop production. In other words, agricultural labourers are those who earn a major portion of their income from agricultural wages. According to the 1991 census, "a person who works in another person's land for wages in money, kind or share should be regarded as an agricultural labourer. He has no risk in the cultivation, but he merely works in another person's land for wages. The labourer could have no right of lease or contract on land on which he works". These agricultural labourers constitute a large section of the population in rural India. They are drawn mainly from the socially and economically backward classes and constitute the poorest section of the rural population. In the recent decades, there has been a large increase in the number and proportion of agricultural labourers in the rural workforce in Karnataka. The number of agricultural labourers classified based on main activity in Karnataka increased from 13.72 lakhs in 1961 to 49.57 lakhs in 1991. Thus, in the course of three decades, there was an increase of 35.85 lakhs in the number of agricultural labourers. The share of agricultural labourers being 16.63 per cent of total workers in 1961 increased to 26.40 per cent by 1991. On the other hand, the share of agricultural labourers to total agricultural workers (comprising cultivators and agricultural labourers) was 23.64 per cent in 1961 and increased to 45.56 per cent by 1991. The net effect of such increase in the number and proportion of agricultural labourers will have an adverse effect on the wage rates of the poorest section of the community. But the new
technology introduced in Indian agriculture in the mid sixties is likely to result in an increased demand for labour as it is found to be highly labour intensive (Herdt and Baker 1972). (This may favourably affect the wage rates of agricultural labourers. But a serious concern which has arisen following the introduction of high yielding variety programme is the belief that the agricultural labourers are not sharing equitably in the benefits of new technology.) (Domen, T.K. 1971). This indicates that excess supply of agricultural labourers in relation to its demand affects the wage rates adversely. Therefore it is essential to examine the behaviour of agricultural wages at the disaggregated level of districts in Karnataka.

A brief discussion on the statement of the problem and theories and evidences on agricultural wages is made in section 1.1. Section 1.2 deals with the objectives of the present study and the hypotheses to be tested. In section 1.3 the scope, importance and chapter scheme of the present study are discussed. And at the end a brief note is given about the geography and economy of Karnataka.

1.1 STATEMENT OF THE PROBLEM, THEORIES AND EVIDENCES

1) There is a continuous increase in the number and proportion of agricultural labourers in India in the recent decades. Several studies have put forward different explanations regarding this phenomenon. They are: eviction of tenants due to enactment of tenant legislation, natural increase in the population of agricultural labour households, disintegration of village industries and lack of employment opportunities to them, new farm technology using modern machinery and modern inputs of farming and continual and increased marginalisation of land
holdings displacing small and marginal farmers from cultivation.

It is, therefore, necessary to examine the quantitative dimensions and sources of increase in the number and proportions of agricultural labourers in Karnataka.

11) One of the important and neglected features of rural labour market is the geographic disparities of wage rates. These geographical wage disparities suggest limited geographic mobility of labour and functioning of the labour market within local and regional boundaries. Hence, it is pertinent to examine the inter-district and inter-regional wage disparities in Karnataka.

111) The level of living of agricultural labourers cannot be measured in money wages as any increase in them cannot counterbalance the rise in the price of wage goods. On the other hand, real wages arrived at by deflating money wages by the price index of agricultural labourers may help in understanding their level of living. Therefore, an attempt is necessary to examine the behaviour of real wages along with the trends in money wages in the districts of Karnataka.

11v) Agricultural growth of a region represented in terms of increased production and productivity of agricultural output, is often assumed to have a positive impact upon real wages of agricultural labourers. But many studies undertaken in India do not show a strong association between the two. Hence, it is necessary to examine the relation between production/productivity of output and wages in Karnataka.
Finally, there is a need for examining the factors that affect the wage rates of agricultural labourers, as the existing hypotheses have been criticised both on empirical as well as analytical grounds. In what follows, we briefly outline the existing hypotheses to explain the mode of wage determination.
1.1.1. **EXISTING HYPOTHESES**

Ricardo maintained that the natural price of labour is determined by the value of the necessary means of subsistence of the worker and his family. The natural price of labour, therefore, depends on the price of the food, necessaries and conveniences required for the support of the labour and his family, (as cited in Rubin I.I. 1990). But Ricardo assumed free and perfect competition in the commodity and labour markets and also assumed prevalence of full employment in the economy.

Another main source of information for this line of thought is Arthur Lewis's article on Economic Development and Unlimited supplies of Labour (A. Lewis 1956). Lewis maintained that the price of labour in a labour surplus economy is a wage at subsistence level.

But in a country like India, with its increasing population, a population of less than full employment and absence of labour union pressure for collective bargaining in agriculture it may not help us to visualise the exact mechanism of maintaining the subsistence level. Further Lewis has not given precise definitions of 'subsistence level' so that the theory is tested empirically. (Hansen 1966, Ahmed 1981).

In the neo-classical system the supply of labour being scarce or fixed, the equilibrium wage is determined by the marginal productivity of labour (Hicks J.R. 1932). The concept of scarcity of labour or fixed supply of labour loses its importance in the developing countries like India where there is wide spread unemployment or underemployment of labour. Further in a developing economy characterised by large scale malnutrition
it is more appropriate to say that the marginal productivity is a dependent variable on the wages paid to the labour. It means the wages determine the productivity of labour and not the other way round. In a developing economy, the marginal productivity is not an independent variable determining wages. Both wages and marginal productivity are interdependent variables. Wages in a developing economy may be low not because the productivity of labour is low but because of widespread unemployment and exploitative institutional structure (Dholkia 1981). Therefore the explanation provided by the neo-classicals does not seem to be relevant to the Indian conditions suffering from serious problem of unemployment.

Another hypothesis is in terms of nutritionally based efficiency wage. The hypothesis was elaborated first by Leibenstein (1957) and later by Majumdar (1959), Wonnacott (1963) and Stiglitz (1976). These models formulate that given a positive association between wages and efficiency of labour it would be profitable for the employer to pay the labourers a higher than subsistence wage. That is, the farmers in labour surplus economies to maximise their profits must hire labourers until the marginal value product of total effort (or efficiency units) hired is equal to the efficiency wage (Binswanger and Rosenzweig 1981). This wage would provide the labourers with the consumptions necessary to work effectively.

Rodgers (1975) made an attempt to explain the nutritionally determined wages by using empirical evidence on wage variation and stability, mode of wage payment, labour tying arrangements and inter relationships between wages and dependency ratio in a labour household. He used the information collected from a small number of selected agricultural labourers from seven villages in
the Kosi area of Bihar in India. He observed that in five of the seven villages the daily wage rate remained stable for most of the years and only rose moderately during the peak season. In four out of the five villages a considerable proportion of the labourers was tied to their employer with a long term contract. According to Bardhan, Kalpana (1977) in these five villages there was higher cropping intensity consisting of autumn and winter paddy and jute. This phenomenon according to her seems to have generated sharper peaks in demand for labour causing labour tying as well as the seasonal stability of wages rather than the nutritionally based constant wages.

Rodgers had also observed that a major part of the wage was provided in the form of meals at work and which according to him, increases the proportion of the wage consumed by the labourers, as opposed to his dependents and in turn is to the advantage of the employer. But according to Bhardhan, Kalpana (1977) letting the worker go home for lunch is obviously wasteful for the employer. Therefore labourers are given meals at work, to save time rather than out of the employers' decision about productive nutrition.

Further Rodgers' observation of an inverse relation between average wage of a labour and the earner dependency ratio in a labour household requires more empirical investigation. Because, for different operations in agriculture, there may be different wages due to differences in skill and strain involved. Therefore, a worker with a high dependency burden requiring more money, may specialise in strenuous and skilled jobs. Thus a higher wage rate for such labour, according to Bhardhan K., may be due to his own decision and capacity, rather than efficiency hypothesis.
Pranab Bardhan [1977], basing on detailed data from a very large sample from NSS 27th round for 1972-73, relating to West Bengal, finds a considerable degree of dispersion in wage rates. Also the variations in wage rates were explainable in terms of demand or productive factors and in terms of the social and demographic characteristics of labourers. According to him, this phenomenon was in striking contrast to the implied constancy of real wage theories of subsistence wage or nutrition determined efficiency wage.

In a study of Shahabazpur farm in Bangladesh, Iqbal Ahmad [1981] found seasonal differences in the daily wage rates, low incidence of field labour and lack of association between the dependency ratio of workers and the wage rates, all of which were contradictory to the findings of Rodgers.

Thus it appears that the subsistence and efficiency wage hypotheses are not adequate to explain actual wage rates as they are criticised on empirical and analytical grounds.

In the present study we are making an attempt to examine the determination of agricultural wages in terms of demand for and supply of labour in Karnataka. Most of the empirical studies in India have followed this approach in the determination of agricultural wages.
1.2. OBJECTIVES AND HYPOTHESES OF THE STUDY

1.2.1. OBJECTIVES

The main objectives of the study are as follows.

1. To examine the quantitative dimensions of agricultural labourers in the districts of Karnataka between 1961 and 1991 and to make an attempt to trace out the sources of increase in their number and proportion.

2. To examine the inter-district and inter-regional wage differentials in the state.

3. To analyse the behaviour of real wages along with trends in money wages in the districts of Karnataka.

4. To examine the relationship between agricultural wages and production, productivity of Food crops, Non-food crops and All crops [Food crops + All crops].

5. To identify the factors affecting the wage rates of agricultural labourers.

1.2.2. HYPOTHESES

1. There is a general swelling in the number and proportion of agricultural labourers in India in the recent decades. This phenomenon is attributed to the various factors, viz: the eviction of tenants, new farm technology, disintegration of village industries, continual and increased marginalisation of
land holdings, natural increase in the population of labour households etc., operating differently in different regions of India. This hypothesis is verified for the state of Karnataka, by examining the quantitative dimensions of agricultural labourers between 1961 and 1991.

The geographical wage disparities may exist on account of limited geographic mobility of labour. The persistent wage disparities indicate the functioning of the labour market within the local and regional boundaries. (Papola, T.S. 1986). This hypothesis is examined by obtaining the time series wage data from 1960-61 to 1986-87 for the nineteen districts of Karnataka. The same analysis is extended to the four regions of Karnataka, classified on the basis of physiography and agro-climatic conditions of the state.

The level of income of agricultural labourers depends upon 1) the level of wages, 2) the prices of wage goods and 3) the quantum of employment available for an individual labourer per year. (Jose, 1978). The first two components determine the real wages, which provide the basic information to judge whether conditions are being created for improvement of incomes of the poorest sections of the community if the quantum of employment per agricultural labourer has not at least moved in the opposite direction. But if the rise in the prices of wage goods exceeds the rise in money wages it may not create the conditions for improvement of incomes and levels of living of agricultural labourers. The hypothesis is examined by using the time series data on real wages for three periods under study viz., [1] 1960-61 to 1970-71, the pre-Green Revolution period, [2] 1971-72 to 1986-87, the post-Green Revolution period and [3] 1960-61 to 1986-87 the Entire period.
iv) Agricultural growth raising the demand for agricultural labourers is assumed to have a positive impact upon the real wages. But agricultural growth combined with excess stock of agricultural labourers may not show any strong influence on the wages. To examine this hypothesis the relation between wages (money wages and real wages) and agricultural output is analysed by using value of production of 24 Food and Non-Food crops for the periods 1960-61 to 1970-71, 1971-72 to 1986-87 and 1960-61 to 1986-87.

v) The percentage of the gross cropped area irrigated, percentage of the operational land holdings of above 2 hectares, male agricultural labourers as proportion of total male workers, density of male agricultural labourers, productivity of land and percentage of the gross cropped area under High Yielding Varieties (HYVs), among other things, are important factors influencing wages of agricultural labourers. Therefore we propose to hypothesize that the wages are positively influencing by percentage of the gross cropped area irrigated, percentage of the operational land holdings of above 2 hectares, productivity of land and percentage of the gross cropped area under HYVs and negatively by proportion of male agricultural labourers to total male workers and density of male agricultural labourers. To test the above hypothesis cross sectional study for the triennial years 1960-63, 1970-73 and 1984-87 is made for the districts of Karnataka. For the purpose of analysis we have employed simple statistical technique in the study.
A detailed examination of the research made on agricultural wages so far does not show a systematic investigation of the hypotheses stated above at the disaggregated level of districts in the state of Karnataka. The present study attempts to fill this gap.

1.3. SCOPE AND IMPORTANCE OF THE STUDY.

1.3.1 SCOPE OF THE STUDY

The study covers 19 districts of Karnataka viz; Bangalore, Belgaum, Bellary, Bidar, Bijapur, Chikkamaglur, Chitradurga, Dakshina Kannada, Dharwad, Gulbarga, Hassan, Kodagu, Kolar, Mandya, Mysore, Raichur, Shimoga, Tumkur and Uttar Kannada. In a few cases, the study is also extended to the four regions of Karnataka classified on the basis of physiography and agroclimatic conditions. They are:

1. The Coastal Region: comprising Dakshina Kannada and Uttar Kannada districts.

2. The Malnad Region: comprising Chikkamaglur, Kodagu and Shimoga districts.

3. The Southern Region: comprising Bangalore, Chitradurga, Hassan, Kolar, Mandya, Mysore and Tumkur districts.
4. The Northern Region: comprising Belgaum, Bellary, Bidar, Bijapur, Dharwad, Gulbarga and Raichur districts.

To examine the quantitative dimensions of agricultural labourers, we have used the census data for 1961 to 1991. The behaviour of money wages and real wages and the relation between wages and production and productivity of agricultural output are examined by using the time series data from 1960-61 to 1986-87. To examine the factors influencing the wages, we have derived the cross sectional triennial average data for 1960-63, 1970-73 and 1984-87.

The present work is based on the secondary sources of data. Wherever the published data were not available the data have been obtained from the official unpublished records. By and large, the data are obtained from the State Bureau of Economics and Statistics, Season and Crop Reports, Statistical Abstracts of Karnataka, various issues of Karnataka at a glance, Population Census publications, Live Stock census, Census of Agricultural Holdings in Karnataka and various issues of Estimates of Area, Production and Yield per Hectare of principal crops in Karnataka, from 1960-61 to 1986-87.

1.3.2 Importance of the Study

This study contributes to the area of research concerning behaviour of agricultural wages (money wages and real wages) within the agricultural sector.

Analysis of geographical wage differentials would show unevenness of agricultural wages in different regions and
indicate factors responsible for this phenomenon. Such type of analysis would give us the real picture of the wage rates prevalent in agriculture.

Trend in money wages has no policy implication as far as wage policy is concerned. On the other hand, trend in real wages does expose the economic condition of agricultural labourers to some extent. A declining or constant real wages would provide a clue to the reformation of appropriate wage policy for the poorest section of the community.

According to the general belief, the new technology introduced in the mid-sixties was expected to distribute the gains of agricultural production equally even among the community of agricultural labourers. The analysis on the association between agricultural output and wages may help us to know the nature of labour market and the benefits received by the agricultural labourers. An adverse or negligible effect of agricultural output on wages may suggest to us to reform the distributional policies in favour of the agricultural labourers.

Finally, the factors determining agricultural wages may guide us to intensify our policies in favour of the welfare of agricultural labourers.

1.3.3. CHAPTER SCHEME

Chapter two examines the quantitative dimensions and sources of increase in the number and proportion of agricultural labourers in the state of Karnataka. For this purpose the Census data for 1961 to 1991 is examined.
Chapter three is devoted to the analysis of wage disparities across the 19 districts and four regions of the state for the period 1960-61 to 1986-87.

Chapter four examines empirically the behaviour of real wages from 1960-61 to 1986-87. It also examines the trends in money and real wages in the districts of Karnataka.

Chapter five seeks to examine the relations between wages and production/productivity of agricultural output.

Chapter six investigates with the help of Multiple Regression techniques the factors affecting the wages in Karnataka for the cross-sectional triennial years 1960-63, 1970-73 and 1984-87.

The last chapter offers a summary of the findings, and discusses the conclusions and policy implications of the research study.

1.4. KARNATAKA STATE IN NATIONAL SETTING

It may not be out of place to present at this stage the salient physical features of Karnataka.

The present state of Karnataka was known as 'Mysore state until 1st November, 1973. However, the erstwhile state of Mysore came into existence on 1st November 1973, under the state
The extent of area of the state is 191791 sq. kms. and its population, according to the 1991 Census [Provisional figures] is 44,806,468. It is the eighth largest state in terms of both area and population. The state comprises 175 Talukas grouped into 20 districts which are further grouped into four divisions for administrative convenience. [Recently Bangalore district is classified into [1] Bangalore district and [2] Bangalore Rural district, for administrative purposes. But these two districts in the present study, are taken as a single district for the purpose of convenience. Therefore the number of districts classified in our study is 19 and not 20]. The location map of Karnataka and the Karnataka state map with its district boundaries are given in Map 1.1 and Map 1.2 respectively.

The state is situated in the South-Western part of the Indian Union and lies between 11.5° and 19° North latitudes and 74° and 78° East longitude. The state is bounded by Maharashtra in the North and Goa and Arabian Sea on the West. In the East it is bounded by Andhra Pradesh and in the South by Tamilnadu and Kerala.

The state may be divided into four regions on the basis of agro-climatic conditions viz; the Coastal, the Malnad, the Northern and the Southern regions.

Karnataka is endowed with a number of perennial rivers. The two important river systems of the state are the Krishna and its tributaries in the North and the Cauvery and its tributaries in the South. Other important rivers are Sharavati, Kali, Netrawati, Tungabhadra, Malaprabha, Ghataprabha etc. These are most suited for tapping water resources.
KARNATAKA
ADMINISTRATIVE DIVISIONS, 1991
[DISTRICTS]
Even though the state is exposed to both monsoons, it receives the major portion of its rainfall from the South-West monsoon, which sets in usually about the end of May or early June and continues with some intervals, till the end of September. The North Eastern Monsoon commences in October and ceases by December. The average annual rainfall in Karnataka is 1400 mm. However it varies from 7600 mm. on the Western Ghats to about 380 mm. in the Eastern and North Eastern parts of the state. The actual annual rainfall for the state was 1139 mm. during 1990, but it varied from 436 mm. in Mysore to 4296 mm. in Dakshina Kannada.

Karnataka grows almost all variety of crops for the simple reason that it possesses varying types of soils and climatic conditions. The soils found here are [i] deep black cotton soil, [ii] red and sandy soils, [iii] laterite soil and [iv] alluvial soil.

The state is fairly rich in mineral resources which are of industrial importance. Apart from being the sole gold producing state in India, Karnataka has large deposits of important minerals like iron and manganese ore, chromite, bauxite, limestone and clays, pyrite, quartz etc.

The state income, at current prices, being Rs. 1858 Cr. in 1970-71 increased to Rs. 1647 Cr. by 1988-89. At the same time the per capita income increased from Rs. 641 in 1970-71 to Rs. 3787 in 1988-89. The density of population being 123 per Sq. Km. in 1961 increased to 234 per Sq. Km. in 1991. And the percentage of literates, which was 25.40 per cent in 1961 increased to 47.05 per cent in 1991.


