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REGIONALISATION OF AGRICULTURAL PRODUCTIVITY IN ANDHRA PRADESH

Y.V. Ramanaiah and N.B.K. Reddy, Tirupati

ABSTRACT : Agricultural productivity is the product of the physical, socio-economic, technological and organisational factors. Its study helps to differentiate the performances, achievements and accomplishments of a region. An endeavour is made here to study the spatial distribution and temporal variations of agricultural productivity in Andhra Pradesh between two points of time i.e., 1963-64 and 1978-79, in terms of intensity and spread of agricultural productivity as well as money-value coefficients. The hierarchy of agricultural productivity regions in Andhra Pradesh, which is presented here, has many planning implications in agriculture.

In the realm of economic activities of the State, agriculture continues to be the mainstay where nearly 70 per cent of the working population earns its livelihood. Agriculture is overwhelmingly dominant in the rural economy of the State. The enormous amount of inputs, which are going into agriculture, is reflected in the increased production and it is necessary to measure the efficiency of their use (Reddy, 1976, p.157). Ever since the beginning of the Five Year Plans, considerable efforts have been made to improve the pattern of agriculture and to increase the productivity. A critical evaluation of the spatial pattern and temperal variations of agricultural productivity provides an appropriate basis for the developmental planning of agriculture in a region.

The concept of agricultural productivity eludes an accurate definition and precise explanation. Any definition, that is attempted, is bound to suffer from one weakness or the other.

Agricultural Productivity and Agricultural Efficiency : •

Often the terms 'agricultural productivity' and 'agricultural efficiency' are used synonymously. In broad sense, these two terms may be perhaps equated but there is a subtle difference between them in their profundity. The term 'agricultural efficiency' is rather more conceptual while the term 'agricultural productivity' is more empirical. Agricultural productivity is closely related to the per hectre yields where as the agricultural efficiency is much more than agricultural productivity and conveys a more comprehensive and wider meaning. For instance, the agricultural efficiency is determined by aggregating and obtaining a composite index of seven variables, namely net sown area, intensity of irrigation, area sown more than once, area irrigated more than once, area under HYV, non-cultivable land and cultivablewaste land. Thus agricultural productivity is the actual performance of the land in terms of per hectare yields; whereas, agricultural efficiency is a ratio between the achievement in terms of agricultural production and the actual potential of the land.

Let us also examine how various agricultural geographers have defined and explained these two terms. Rao(1962, p.8) explained that "productivity is a physical rather than a value concept and describes the changing relation between output and one of the major inputs like land, labour and capital" Jasbir Singh (1981, p.174) considered agricultural productivity as the "degree to which' the economic, cultural,technical and organisational variables (i.e., the man-made frame) are able to exploit the abiotic resources of the area for agricultural production". Bhatia (1967, p.248) equated agricultural productivity with agricultural efficiency and defined agricultural efficiency "as the aggregate performance of various crops in regard to their output per acre but the contribution of each crop to the agricultural efficiency would be relative to its share of the crop land". Singh (1979, p.39) defined agricultural productivity as the "quantum of return from arable land". He argued that "the quantity of produce denotes its intensity and the spatial expansion its spread". From the preceding discussion it is evident that agricultural productivity is a relative measure employed to make comparative studies. It denotes the maximum physical or monetary output per hectare in relation to the input under the prevailing physical and socio-economic conditions.

Obviously, the term 'agricultural productivity' is both a dynamic and a relative concept. The spatio-temporal variations in agricultural productivity are the result of the combined interplay of physical, socio-economic, technological and organisational factors. Raza (1978, p.19) opined that "the process of agricultural development in India, is essentially a function of differential doses of technological inputs interacting with environmental constraints of varying severity under the inhibiting influence of institutional factors of different intensities. While all the three operate together positively i.e., where institutions are less restrictive, environment more permissive and technological inputs high -- it becomes possible to losen the grip of inherited under-development and a limited breakthrough is achieved in regional agriculture. Where all the three mark together negatively -- i.e., where the institutions are highly inhibitive, environment more severe and technological inputs small -- regional agriculture is unable to go beyond the stage of submarginal subsistence. Where thethree operate in different directions or in the same direction with different degrees of intensity, regional agriculture plods along at an unsatisfactory pace."

A study of agricultural productivity in its spatio-temporal perspective is essential for differentiating and delimiting the areas whose performances and accomplishments are diverse. Such a study also helps to evolve future orientation in agricultural planning and to lessen regional disparities. Study on the agricultural productivity are of particular importance in the countries like India, where food problem is acute and horizontal expansion of agriculture has almost reached its maximum physical frontiers. 'It may be noted that even after more than a decade of 'Green Revolution' and a substantial increase in agricultural production, particularly in foodgrains, Indian agriculture has yet not been able to break the chains of under-development and food shortages still persist in some parts of the country' (Bharadwaj, 1981, p.1). 'The reasons for such a state of affairs are not far to seek. First, a high population growth has accompanied the growth in the production of foodgrains. Second, the high growth in agricultural production is concentrated in a few pockets' (Bhalla and Alagh, 1978, p. 14-15).

It is the job of the agricultural geographers, agricultural economists and planners to highlight the trends of agricultural productivity during the plan periods in different regions. They must find out the factors and isolate the determinants which have affected the agricultural development over a period of time. A study of the existing and the past performances of agriculture too is imperative to locate the areas which need greater attention in the coming years so as to enhance the per hectare output.

A REVIEW OF LITERATURE ON METHODOLOGY

Scholars from various disciplines have evolved various methods to regionalise agricultural productivity and employed them at the macro, meso and micro levels. Using different variables, agricultural productivity is measured in one of the following methods: (1) output per unit of labour applied or man hours, (2) output in relation to input, or output-input ratio, (3) output per unit area, (4) output as expressed in terms of grain equivalents per head of population, (5) output in terms of calories and (6) output in terms of monetary value. 'Of these, the first two methods seem to require such statistics as are not easily available in most of the countries of the world. Statistics, though available at the farm level in some States of India, do not seem to be adequate for area analysis of efficiency in agriculture' (Jasbir Sing, 1981, p. 170-171).

The agricultural productivity, in terms of grain equivalents per head of population, was first employed by Buck (1937) in his study of land utilisation in China. Buck's method was modified and employed by de Vries (1967) to obtain output of grains in the predominantly rice-growing Asian countries in terms of milled-rice equivalents per head of total population according to the local market price of each grain. Clark and Haswell (1967) used a system in terms of kilograms of wheat equivalents per person to suit the wheat-growing European countries. However, these methods do not give meaningful results especially in the multi-crop regions.

On the basis of per hectare yield statistics of different crops, Kendall (1939) attempted to measure the agricultural productivity by devising what is called the 'ranking coefficient' method. Stamp (1960) employed Kendall's ranking coefficient method for international comparisons of nine major crops of 20 selected countries. In India, Shafi (1960) used this method for determining agricultural productivity of U.P. by considering per acre yields of eight foodgrain crops. To overcome the insensitivity of the ranking coefficient method to the areal strength of the crop, Sapre and Deshpande (1964) have modified the procedure by taking a weighted average of the ranks instead of simple average ranks of Kendall. Here, the weightage given to ranks of various crops is proportionate to the percentage of crop land under respective crop. Bhatia (1967) further modified this method and evolved the 'yield efficiency index', weighted by the share of crops for the component areal unit in relation to the entire study area. Jasbir Singh (1972) has developed the 'crop yield and concentration indices ranking coefficient' to measure the agricultural productivity in Haryana. Sinha (1981) developed the standard deviation and standard score method to determine the agricultural productivity in India at district level. Enyedi (1964) developed a method for determining the index of agricultural productivity coefficient by taking the production and the area of a particular crop in a region with reference to the national scale. With some slight modification, Shafi (1972, 1974) adopted this method to determine the agricultural productivity indices in respect of 12 crops in U.P.

In view of the ever-increasing population on land resources, Stamp (1958) introduced the concept of 'carrying capacity of land' which is in a sense refers to agricultural productivity. Here, the production of crops is converted into calories which can be aggregated with the standard nutrition unit. Jasbir Singh (1974) has attempted to determine the regional imbalances on the basis of the levels of agricultural productivity in India.

Kendall (1939) expressed agricultural productivity in terms of money-value coefficients. In India, Hussain (1976) employed this method to establish the agricultural productivity in the Sutlej-Ganga plains.

The above methods attempted to analyse the general productivity of land in terms of crop yields but did not differentiate intensity and spread of agriculture. Singh (1979) evolved a method by which a two-dimensional picture of agricultural productivity consisting of intensity and spread could be portrayed. But it involves tedious and cumbersome calculations.

OBJECTIVES OF THE PRESENT STUDY

The main objectives of the present study are enunciated hereunder:

i) to attempt the spatio-temporal pattern of the yield levels of important crops which highlight the productivity of different important crops in Andhra Pradesh,

ii) to examine the spatial variations in agricultural productivity at district level,

iii) to bring out the temporal variations in the level of agricultural productivity between 1964 and 1979,

iv) to attempt a regionalisation of agriculture to identify the hierarchy of agricultural productivity regions, and

v) to delineate the high productive and low productive areas.

METHODOLOGY EMPLOYED IN THE STUDY

In the present study, district is chosen as the basic areal unit and the span of the study period covers 15 years from 1963-64 to 1978-79. The study is made at 5-year intervals.

Both Kendall's money-value coefficient method and a modified 'productivity intensity cum spread method' of Singh are employed in combination as the chief techniques of analysis. The productivity of ten important crops which can be expressed in caloric values are taken into consideration to examine the intensity and spread of agricultural productivity. Concurrently, agricultural productivity is also measured in terms of money-value coefficients of Kendall for 20 crops, namely paddy, jowar, bajra, maize, ragi, minor millets, wheat, bengal gram, red gram, black gram, green gram, horse gram, sugarcane, groundnut, castor, sesamum, cotton, tobacco, chillies and onions.

In Singh's method, the (a) intensity and (b) spread indices of each of the three variables, namely (1) yield (2) grain equivalent, and (3) cropping system are separately calculated before the compositive index is finally computed to measure the agricultural productivity. However, a few modifications are introduced here in this method in respect of two variables, namely (1) grain equivalent and (2) cropping system. Firstly, the caloric equivalent is chosen in the place of the grain equivalent. Secondly, two more parameters, namely area irrigated more than once and gross sown area are included in addition to the percentages of the area sown more than once and gross irrigated area for computing the intensity and spread indices of the cropping system. Here, the area sown more than once and the area irrigated more than once are taken to compute the cropping intensity index, while the gross sown area and the gross irrigated area are taken to compute cropping spread index.

The procedure for calculating (a) intensity and (b) spread indices of each one of the three variables, namely (1) yield (2) caloric equivalent and (3) the cropping system is explained hereunder:

1. Yield

a) Yield Intensity Index (I_{yi}) is calculated by using the formula,

$$I_{yi} = \frac{100}{N} \left(\sum_{j=1}^{n} \frac{Y_{pj}}{Y_{rj}} \right)$$

where Y_{pj} = per hectare yields of crops in a micro unit

Y_{rj} = per hectare yields of crops in a macro area

n = number of crops

b) Yield Spread Index (I_{sy}) is calculated by using the formula

$$I_{sy} = \frac{100}{N} \left(\sum_{j=1}^{n} \cdot \frac{C_{pj}}{C_{rj}} \frac{Y_{pj}}{Y_{rj}} \right)$$

where C_{pj} = per cent of each cropland in a micro unit

C_{rj} = per cent of same cropland in a macro area

Y_{pj}/Y_{rj} = Yield ratio

2. a) Caloric Equivalent Intensity Index (I_{cei}) is computed by employing the formula,

$$I_{cei} = \frac{100}{N} \left(\sum_{j=1}^{n} P \frac{P_{kj}}{P_{rj}} L_{kj} \right)$$

where P_{kj} = Production of the crop in a micro unit

P_{rj} = Production of the same crop in a macro area

L_{kj} = Caloric equivalent unit of the crop

b) Caloric Equivalent Spread Index (I_{sce}) is computed by employing the formula,

$$I_{sce} = \frac{100}{N} \left(\sum_{j=1}^{n} \frac{C_{kj}}{C_{rj}} \frac{P_{kj}}{P_{rj}} L_{kj} \right)$$

where C_{kj} = Percentage share of the crop in a micro unit

C_{rj} = Percentage share of the same crop in a macro area

$\frac{P_{kj}}{P_{rj}} L_{kj}$ = Caloric equivalent coefficient

3. Cropping System

a) Cropping System Intensity Index (I_{ci}) is calculated by using the formula,

$$I_{ci} = \frac{100}{2} \left(\frac{a_c}{A_c} \right) + \left(\frac{a_i}{A_i} \right)$$

where a_c = Percentage of area sown more than once in a micro unit

A_c = Percentage of area sown more than once in a macro area

a_i = Percentage of area irrigated more than once in a micro unit

A_i = Percentage of area irrigated more than once in a macro area

b) Cropping System Spread Index (I_{sci}) is calculated by using the formula,

$$I_{sci} = \frac{100}{2} \left(\frac{a_g}{A_g} \right) + \frac{a_r}{A_r})$$

where a_g = Percentage of gross sown area in a micro unit

A_g = Percentage of gross sown area in a macro area

a_r = Percentage of gross irrigated area in a micro unit

A_r = Percentage of gross irrigated area in a micro area

THE COMPOSITE AGRICULTURAL PRODUCTIVITY INDEX

After calculating the (a) intensity and (b) spread indices of (1) yield (2) caloric equivalent and (3) cropping system, two composite indices of agricultural productivity, one for the intensity and the other for spread are computed.

The Intensity of Agricultural Productivity (I_{api}) is computed by using the formula,

$$I_{api} = \frac{I_{ci}}{100} \left(\frac{I_{yi} + I_{cei}}{2} \right)$$

where I_{yi} = Yield intensity index

I_{cei} = Caloric equivalent intensity index

I_{ci} = Cropping intensity index

Similarly, the Spread of Agricultural Productivity Index (I_{sap}) is computed by using the formula,

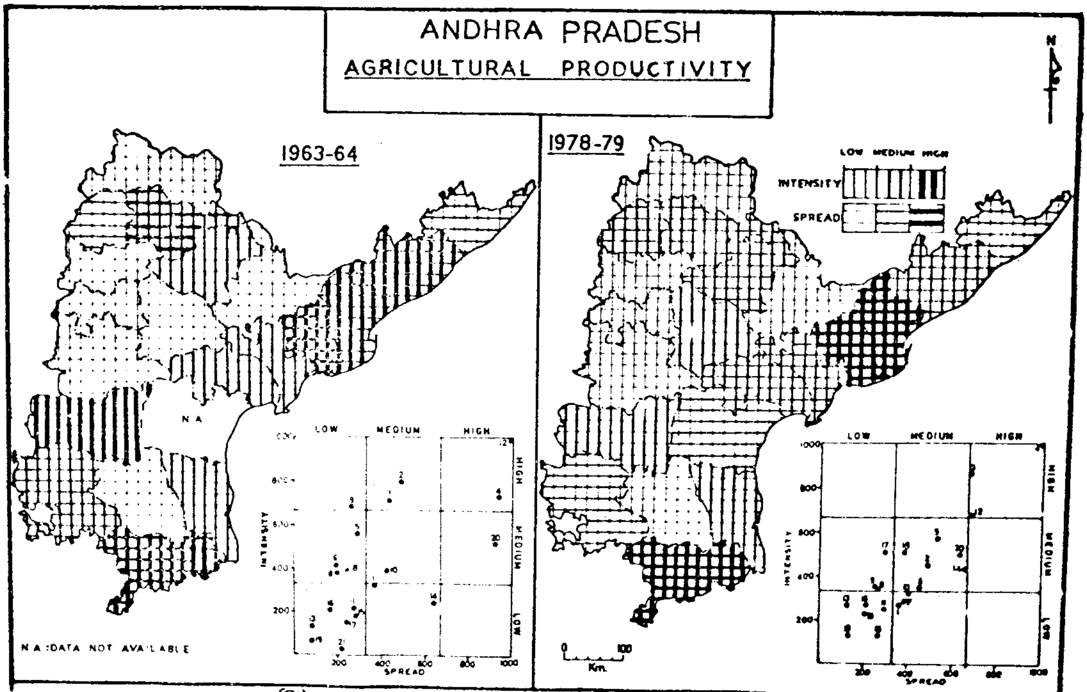
$$I_{sap} = \frac{I_{sci}}{100} \left(\frac{I_{sy} + I_{sce}}{2} \right)$$

where I_{sy} = Yield spread index

I_{sce} = Caloric equivalent spread index

I_{sci} = Cropping spread index

The composite values of the intensity and spread of agricultural productivity are standardised for comparative studies.



(a) FIG-2 (b)

FIG-1

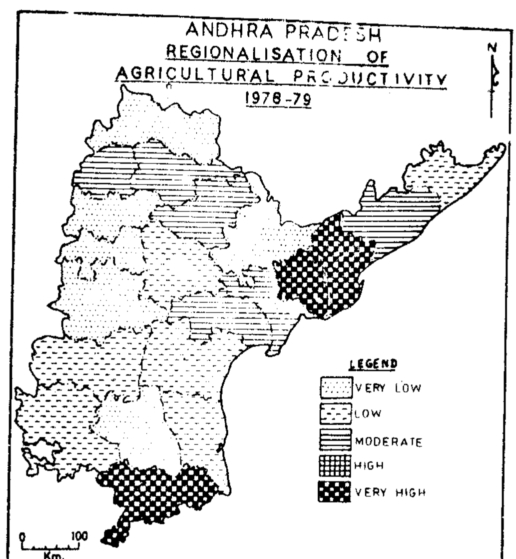


FIG-3

AGGREGATE AGRICULTURAL PRODUCTIVITY (INTENSITY AND SPREAD)

An endeavour is made here to examine the pattern of the spatial and temporal variations of the aggreggate agricultural productivity by taking into account the intensity as well as the spread of the agricultural productivity (Fig. 2 a and b).

Agricultural productivity is a multi-dimensional phenomenon. It is the net product of physical, socio-economic, technological, institutional and organisational factors.

TABLE I : PATTERN OF THE INTENSITY AND SPREAD OF AGRICULTURAL PRODUCTIVITY IN ANDHRA PRADESH

Category	Level of Agricultural Productivity	Districts 1963-64		Districts 1978-79	
A	High intensity-High spread	West Godavari and Chittoor	(2)	Chittoor, East Godavari and West Godavari	(3)
B_1	High intensity-Medium spread	East Godavari and Vishakapatnam	(2)	---	
B_2	Medium intensity-High spread	Karimnagar	(1)	---	
C_1	High intensity-Low spread	Kurnool	(1)	---	
C_2	Low intensity-High spread	---		---	
C_3	Medium intensity-Medium spread	Anantapur	(1)	Guntur, Nizamabad, Vishakapatnam, Warangal, Karimnagar and Krishna	(6)
D_1	Medium intensity-Low spread	Nellore, Warrangal, Guntur and Krishna	(4)	Nellore, Kurnool and Nalgonda	(3)
D_2	Low intensity-Medium spread	Nizamabad and Srikakulam	(2)	Srikakulam, Anantapur and Prakasam	(3)
E	Low intensity-Low spread	Adilabad, Khammam, Hyderabad, Nalgonda, Medak, Mahabubnagar, and Cuddapah	(7)	Khammam, Medak, Adilabad, Cuddapah, Mahabubnagar and Hyderabad	(6)

There has been a significant increase in the agricultural productivity intensity and spread in Andhra Pradesh during the 15-year study period. In 1963-64, as many as 7 districts were under the low intensity-low spread category, 2 districts under the low intensity-medium spread category, 4 districts under the medium intensity-low spread category, one district under the medium intensity-medium spread category, one district under the high intensity-low spread category one district under the medium intensity-high spread category, 2 districts under the high intensity-medium spread category and 2 districts (West Godavari and Chittoor) under the high intensity high speed category of agricultural productivity. In 1963-64, the pattern of agricultural productivity intensity and spread showed a balanced spatial distribution as is evident from the fact that the districts of the State were distributed in eight different categories. By 1978-79 this situation has very much changed. Out of the nine categories of agricultural productivity, no district fell in four categories, only three districts have reached the highest level of intensity and spread possible in the context while 18 districts were distributed in the first 4 categories which have low to medium intensity or spread. There appears to be a great possibility for further increase both in intensity and spread of agrici?tiral productivity in the State.

In the 15-year period, not withstanding the general progress in the agricultural productivity in the State, a number of positive and negative changes have taken place in different categories of agricultural productivity intensity and spread. By 1978-79, the scenario has very much changed, more towards the positive side. On the whole, the picture of agricultural productivity appears to be quite encouraging.

The main positive trends that have taken place during this period are (i) as many as 8 of the 20 districts of the State have increased their intensity and expanded their spread, (ii) out of the seven districts which were under the low intensity-low spread category, one district (Nalgonda) has moved up to higher category, namely the medium intensity-low spread, (iii) Nizamabad district which was under the low intensity-medium spread category moved upto the medium intensity-medium spread category, (iv) out of the four districts which were under the medium intensity-low spread, three districts (Warangal, Guntur and Krishna ascended to the medium intensity-medium spread category, (v) out of the two districts in the high intensity-medium spread category, one district (East Godavari) moved upto the high intensity-high spread category, and (vi) West Godavari and Chittoor districts which were under the high intensity-high spread category in 1963-64 remained in the same because they have reached the highest level possible.

As many as 8 districts of the State remained in the same category without any significant increase or decrease. For instance, (i) Adilabad, Khammam, Medak, Cuddapah, Mahabubnagar and Hyderabad districts remained under the low intensity-low spread category both in 1963-64 and 1978-79, (ii) Srikakulam district remained in the same low intensity-medium spread category and (iii) Nellore district remained in the same medium-intensity-low spread category without change in its position.

Only four districts showed decline in their category indicating a negative trend. For example, (i) Anantapur district which was under the medium intensity-medium spread in 1963-64 came down to the low intensity-medium spread category, (ii) Kurnool district which was under the high intensity-low spread category slipped down to the medium intensity-low spread category, (iii) Karimnagar district which was under the medium intensity-high spread also has stepped down to the medium intensity-medium spread category, and (iv) Vishakapatnam district which was under the high intensity-medium spread category has descended to the medium intensity-medium spread.

REGIONALISATION OF AGRICULTURAL PRODUCTIVITY

On the basis of agricultural productivity of 1978-79 in Andhra Pradesh, an attempt is to made to regionalise agriculture. In the process, five regions have emerged. They are (1) the Region with Very High Agricultural Productivity (A category), (2) the Region with High Agricultural Productivity (B_1 and B_2 categories), (3) the Region with Moderate Agricultural Productivity (C_1, C_2 and C_3 categories), (4) the Region with Low Agricultural Productivity (D_1 and D_2 categories), and (5) the Region with Very Low Agricultural Productivity (E category) (Fig. 3). The characteristics of each region are discussed and highlighted in the subsequent discussion.

1. Region with Very High Agricultural Productivity (A Category):

The two deltaic districts of Godavari and Chittoor district together form the high intensity-high spread category. This region is supposed to be agriculturally the most prosperous and dynamic region in the State. The fertile alluvial deltaic plains which constituted the major part of the first two districts and economically much advanced. The plain conditions, the high level of canal irrigation development, a well-developed communication system, a high density of population and modernisation of agriculture have contributed to the development of this region. In the case of Chittoor district, the reasons for its development are slightly different. The eastern part of the district receives relatively higher rainfall. The soils, especially in the valleys, are fertile. An extensive well irrigation system as well as tank irrigation have helped to develop opulent agriculture dominated by commercial crops with groundnut-paddy-sugarcane combination.

2. Region with High Agricultural Productivity (B_1 and B_2 categories):

None of the districts in the State fall under this category.

3. Region with Moderate Agricultural Productivity)C_1, C_2 and C_3 Categories):

There are six districts in the State, namely Guntur, Nizamabad, Vishakapatnam, Warangal, Karimnagar, and Krishna districts, which constitute this region. It is rather intriguing why Krishna, Guntur and Nizamabad districts which are supposed to be agriculturally prosperous form part of this region. Most probably, it is due to the negative effect of the large dry upland tracts they have.

However, considerable parts of both Krishna and Guntur districts are served by the Krishna irrigation system. They have a high density of population and highly developed road and railway network too. Vishakapatnam is poorly irrigated although the rainfall is relatively high. The development of irrigation is quite recent in the Telungana districts of Nizamabad, Karimnagar and Warangal. Further, the soils in these districts are quite fertile. This is one important factor which is responsible for their elevation to this category. Lest they would have remained in a lower category.

4. Region with Low Agricultural Productivity (D_1 and D_2 Categories):

The three coastal districts of Srikakulam, Prakasam and Nellore, the Rayalaseema districts of Anantapur and Kurnool and the Telungana district of Nalgonda fall within the domain of this region. In some parts of these districts irrigation is developed. Different factors in different districts of this region have operated for the present agricultural situation in this region. Excluding Srikakulam district, the remaining five districts are contiguous in their location. These districts have high proportions of forest land and fallow land. Except in the coastal tracts of Nellore, Srikakulam and Prakasam districts, millet is predominantly cultivated. The cropping pattern in these districts is highly diversified. With the development of irrigation, this region (excluding Anantapur district) is likely to make significant advances in the field of agriculture. The region has a high potential for further improvement in its agricultural productivity.

5. Region with Very Low Agricultural Productivity (E Category):

In terms of agricultural productivity, this region is least developed. It comprises five Telungana districts (Khammam, Medak, Adilabad, Mahabubnagar and Hyderabad) and one Rayalaseema district (Cuddapah). These districts are located in the interior plateau where the rainfall is not only low but also erratic. The agricultural productivity of this region can be considerably improved by developing its irrigation potential. Millets and oil seeds are the main crops in this region.

Agricultural Productivity (Money-Value Coefficients):

The productivity of agriculture can be measured in terms of money-value coefficients of crops. This method is superior to others as it brings the importance of the high money-value crops like cotton, tobacco, sugarcane, oil seeds, spices and condiments which generally account for a low percentage of the total cropped area.

Agricultural productivity in the State is studied here on the basis of the prices of 20 important crops. The wholesale prices of these crops for the year 1978-79 are projected backwards upto 1963-64 for the purpose of temporal studies. The total agricultural production of crops cultivated in an areal unit is converted into money values and they are divided by the total area under these crops in each such areal unit to obtain the per hectare agricultural productivity in terms of money-value coefficients.

In 1963-64, the range of per hectare agricultural output in terms of money-value coefficients between the lowest (Rs. 621/- in Mahabubnagar district) and the highest (Rs. 2928/-, in West Godavari district) in the State was Rs. 2307/-, while in 1978-79 it increased to Rs. 4170/-. The lowest productivity of Rs. 833/- was in Adilabad district and the highest Rs. 4003/- was in West Godavari district. Both in 1963-64 and 1978-79, West Godavari district claimed the highest position in agricultural productivity. The per hectare productivity has increased in the State at all the levels, namely the average, the lowest and the highest levels. For instance, the average level of productivity in the State has increased by Rs. 571/- (from Rs. 1311/- to Rs. 1882/-), the lowest level by Rs. 212/- (from Rs. 621/- to Rs. 833/-) and the highest level by Rs. 1075/- (from Rs. 2928/- to Rs. 4003/-).

The agricultural productivity in the State has made an impressive progress at all levels. The nine districts of poor performance in 1963-64 were reduced to one district by 1978-79. The remaining districts of the State have shown considerable progress but in different degrees. East Godavari and West Godavari districts have shown the highest level of productivity in 1978-79. Prakasam, Nellore, Guntur, Chittoor, Krishna and Nizamabad districts have also made significant progress in improving their agricultural productivity. Here, all the districts except

Nizamabad are situated in the coastal plain. The high level productivity in Nizamabad is due to the cultivation of sugarcane and paddy in the recently developed large irrigated tracts.

The study of agricultural productivity in terms of money-value coefficients has provided a different perspective very much different from the study of agricultural productivity based on intensity and spread. Here, the value of the crop also is taken into consideration while in the other method only the quantity of production was considered. The averaging of the results of both provide a more realistic picture throwing more light on various facets of agricultural productivity. These two studies are mutually complimentary and cover up the gaps of each other.

TABLE II-A : LEVELS OF AGRICULTURAL OUTPUT IN TERMS OF MONEY-VALUE COEFFICIENTS IN ANDHRA PRADESH

Productivity Level	Agricultural Output in Rs./Hectare		Variation during the 15 years
	1963-64	1978-79	
Average	1311	1882	571
Lowest	621	833	212
Highest	2928	4003	1075
Range between lowest and highest	2307	4170	-

TABLE II-B : AGRICULTURAL PRODUCTIVITY IN ANDHRA PRADESH
(IN MONEY-VALUE COEFFICIENTS)

Agricultural Productivity Level in Rs./Hectare		
Poor (< 1000)	Mahabubnagar, Adilabad, Nalgonda, Hyderabad, Khammam, Anantapur, Karimnagar, Warangal and Kurnool (9)	Adilabad (1)
Low (1001-2000)	Medak, Cuddapah, Nellore, Srikakulam, Vishakapatnam and Chittoor (6)	Kurnool, Hyderabad, Mahabubnagar, Anantapur, Nalgonda, Medak, Cuddapah, Warrangal, Vishakapatnam, Srikakulam, Khammam and Karimnagar (12)
Medium (2001-3000)	Krishna, Nizamabad, Guntur, East Godavari and West Godavari (5)	Prakasam, Nellore, Guntur, Chittoor, Krishna and Nizamabad (6)
High (>3000)	---	East Godavari and West Godavari (2)

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ADDRESS OF THE AUTHORS

Mr. Y.V. Ramanaiah
Research Scholar
Department of Geography
S.V. University
Tirupati - 517 502

Dr. N.B.K. Reddy
Professor and Head
Department of Geography
S.V. University
Tirupati - 517 502