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Research Paper

LAND USE PATTERN IN INDIA AND KARNATAKA: A COMPARATIVE ANALYSIS

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ABSTRACT **In this paper, an attempt has been made to analyze the agricultural land use pattern in India and Karnataka. The study is based on secondary data collected from secondary**

d from secondary sources. The study gives a brief explanation on the aspects responsible for declining of agricultural land, in the present years. The study reveals that the net area sown has been increased in Karnataka and declined in India. It has been also identified by the study that the share of horticulture area is more in Karnataka compared to India. The rate of growth of horticultural area was higher in India compared to Karnataka. Therefore, Karnataka has greater potential to increase horticulture area in order to make the Karnataka economy and agriculture more prosperous and sustainable.

KEYWORDS :Land Use Pattern, Agricultural Land, Socio-Economic Factors, Net Area

INTRODUCTION

Land is an important natural resource that embraces the elements like the overlying temperature, moisture, topography, soil matrix and physical structure. It is certainty a manifesta- tion of the past and present human activities. But land has the characteristics of its fixity in supply and scarcity. Therefore land use pattern is directly concerned with the problem arising in the process of deciding upon and carrying out into action the optimum use. In a dynamic world, certain modification can oc- cur in the existing pattern of land utilization (Lekhi R.K. & Jogin- dre Singh, 2011).

Indian agriculture is a land-based activity and as such water and land have been the basic elements of life support system and an important resource for the economic life of a majority of people in the country. The way people handle and use land resource is decisive for their social and economic well- being as well as for the sustained quality of resources. Indian agriculture is now poised for technical transformation for ensuring food security, export earnings and decentralized development to reduce rural poverty owing to the severe population pressure on the natural resources base of land, water, biodiversity and other resources to meet its growing food and development demands (Wani M.H. et.al. , 2009). The physical, economic and institutional framework taken together determines the pattern of land use of a country at any particular time. In other words, the land use pattern in different regions in India has been evolved as the result of the action and interaction of various factors taken together, such as physical characteristics of land, the structure of resources like capital and labour. Finally land use is an important not only for producing foodstuffs, cereals, fruits and vegetables for consumption but also for generating surpluses to meet the increasing demands created by rising population and de- veloping industrial sector.

Review of Literature

Land use is a product of interactions between cultural back- grounds, state and physical needs of the society with the natural potential of land (Karwariya, S., and Goyal, S. , 2011). Land use of any region expresses the interaction of the operation of the whole range of environmental factors modified by the socio-economic and historical elements (Narkhed, D.S. & Gatade D.G.,2010). Desirable land use pattern could be achieved through sectoral plan linkages and there is a need to apply modern science and technology to enhance productivity on a sustainable basis (Wani M.H. et.al. , 2009). The increase in land prices due to enhanced income of some sections, future need of prime land and returns from other than agricultural uses seem to be the driving force for change in land use (Darshan Singh Bhupal.,2012).

Methodology

The present study uses secondary data. The analytical tools and techniques have been used for analysis and interpretation of data. Secondary data collected from Indian Government Reports such as Agricultural Statistical at a Glance 2012, Indian Horticulture Database 2012 and Horticulture Statistics of Karnataka State at a Glance 2010-11. Statistical results are worked out with the help of SPSS.

Factors Influencing on Agricultural Land Use in India

In India, there is interaction of various demands on agricultural land mainly for the production of food, fiber, fodder, oil seeds, fruits, vegetables and other crops. This provides significant sup- port of farmers to develop or increase their economic growth and social transformation of the country. But in recent year's uses of agricultural land or area of agricultural productivity is being declined, because the action and interaction of various factors such as population pressure, socioeconomic forces, live stock pressure and various types of institutional development that regulate the land use in formally and informally (Shasi Chawla, 2012). But the main cause of decline in the agricultural land is rapid growth of population. Land use for modified based on the needs of the population. According to census of population shows that India accounts from only 2.4 percent of the world surface are and yet it sustains 16.9 percent of the world population (Government of India. , 2011). The impact of population pressure on land is such that, the fragmented into small pieces of land. Not only population pressure causes on the decline of agricultural land, there are some other factors affect the agricultural land use pattern such as industrialization, energy production, urban development or urbanization, mining's, residential and commercial as well assupporting infrastructure are forcing to conversion of agricultural land to various non- agricultural purpose. Therefore an expanding population, an urbanization and development programme continues exert of increasing pressure on agricultural land uses in India.

Land use pattern in India

In general, the land use pattern indicates the way in which the land area used under various circumstances. The pattern of land use of a country at any particular time is determined by the combination of economic and institutional framework. Hence, the land use pattern and the trends during years will help to suggest the scope for planned shift in the pattern. The analysis regarding trend of land use in India during the period 1990-91 to 2010-11 are as follows. Out of the total geographical area of 328.73 million hectares, the land use statistics were available for roughly 304.86 million hectares in 1990 91; however, in 2010-11 the reporting area is around 305.90 million hectares. Land under net area sown in 2010-11, decreased to 141.57 mil- lion hectares from 143 million hectares in 1990-91. In

percentage terms, it decreased from 46.90 percent of the reporting area in 1990-91 to 46.27 percent in 2010-11 (Government of India ,2012). The decline in the net area sown was mainly attributed to increasing conversion agricultural land into non-agricultural purpose (Soumya Mohanty, 2007). Area under horticulture crops has increased from 9.01 million hectares in 1990-91 to 21.8 million hectares in 2010-11 (Government of India, 2012). The increase in area of horticulture has proved to be the best diversification of agricultural land use, because of assured and the remunerable increasing returns to farmers (Pradeep Kumar Mehta, 2009). This is the reason which has stimulated farmers to grow more horticultural crops. In Karnataka, the land use patterns in during the period 1990-91 to 2010-11 are as follows. Out of the total geographical area was 19.05 million hectares. Land under net area sown in 2010-11, increased to 10.52 million hectares from 10.38 million hectares in 1990-91 (Government of Karnataka, 2011). Area under horticulture crops has increased from 1.24 million hectares in 1990-91 to 1.90 million hectares in 2010-11 (Governemnt of Karnataka, 2011).

Independent Samples Test for Comparison:

The following section has been attempted to analyze the independent samples test for comparison of growth rate and ratio of net area sown and horticultural area in India and Karnataka.

Table 1:Independent Samples Test for Comparison of Growth Rates in India

Annual Growth Rates	Levene's Test for Equality of Variances	t-test for Equality of Means
	F	Sig.
Equal variances assumed	5.065	.030
Equal variances not assumed		

The above table 1 shows the average annual growth rate of net area sown in India was -.0200 and the average annual growth rate of horticulture grown area were 4.9350. The difference be- tween the two is 4.95. It is found from F-test that the variance between the two groups is significant. Therefore, equal variance was not assumed. It is found from the t-test that the mean differ- ence between groups is significant at 5 percent level. Therefore, the area of horticulture grown has been increased significantly higher than the growth of the area shown in India.

Table 2:Independent Samples Test for Comparison of Growth Rates in Karnataka

Annual Growth Rates	Levene's Test for Equality of Variances	t-test for Equality of Means
	F	Sig.
Equal variances assumed	.019	.891
Equal variances not assumed		

The above table 2 shows the average annual growth rate of net area sown in Karnataka was .1115 and the average annual growth rate of horticulture grown area were 2.2295. The differ-ence between the two is 2.11800. It is found from F-test that the variance between the two groups is not significant. Therefore, equal variance was assumed. It is found from the t-test that the mean difference between groups is significant at 5 percent level. Therefore, the area of horticulture grown has been increased significantly higher than the growth of the area shown in Karnataka.

The above table 3 shows the average annual growth rate of net area sown in India was -.0200 and the average annual growth rate of net area sown in Karnataka was .1115. The difference between India and Karnataka is .13150. It is found from F-test that the variance between India and Karnataka is significant. Therefore, equal variance was not assumed. It is found from the t-test that the mean difference between India and Karnataka is significant at 5 percent level. Therefore, the net area sown has been increased in Karnataka significantly higher than India.

Table 4: Independent Samples Test for Comparison of Growth Rate of Horticulture Area in India and Karnataka

	Levene's Test for Equality of Variances	t-test for Equality of Means
Annual Growth Rates	F	Sig.

Equal variances assumed	2.549	(2-tailed) .119
Equal variances not assumed		

The above table 4 shows the average annual growth rates of horticulture area in India was 4.9350 and in Karnataka were 2.2295. The difference between India and Karnataka is 2.70550. It is found from F-test that the variance between India and Karnataka is not significant. Therefore, equal variance was assumed. It is found from the t-test that the mean difference between India and Karnataka is significant at 5 percent level. Therefore, the horticulture area has been increased in India significantly higher than Karnataka.

Table 5: Independent Samples Test for comparison of ratio of horticulture area to net area sown in India and Karna- taka

Annual Growth Rate	Levene's Test for Equality of Variances	t-test for Equality of Means
F	Sig.	t
Equal variances assumed	2.806	.102
Equal variances not assumed		

The above table 5 shows the ratio of horticulture area to net area sown in India was 11.6405 and in Karnataka it was 15.0686. The difference between India and Karnataka is 3.4281. It's found from F-test that the variance between India and Karnataka is not significant. Therefore, equal variance was assumed. It's found from the t-test that the mean difference between India and Karnataka is significant at 5 percent level. Therefore, the ratio of horticultural area to net area sown is more in Karnataka compare to India.

CONCLUSION

The secondary data analysis clearly projects the comparison of growth rate and ratio of net area sown and horticultural area in India and Karnataka. The area of horticulture has been significantly increased when compared with that of the net area sown in India as well as in Karnataka. The net area sown has been increased in Karnataka significantly higher than India and the horticulture area has been increased in India significantly higher than Karnataka. The ratio of horticultural area to net area sown is more in Karnataka compare to India.

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