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Availability of Land: A Study in Rural Management

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Abstract

Man and land are two facets of Geographical study. They are mutually interrelated and interdependent for their sustainable development. Man use the land in response his requirement like food, shelter and fodder with the help of his knowledge and level of technology. The knowledge and level of technology is not equal in everywhere. Therefore the relationship between Man and Land is not homogeneous in all over the globe. In all way of land use its use in Agriculture is very important because in this era of technology, land remains an important source of food supply. In the developing Countries like India pressure of population is being felt on all resources, land is also not untouched by this. So the study of availability of land becomes relevant and demand of time. In the present paper, the per capita availability of different type of land in Lakhisarai district like total land, Arable land and Net Area Sown has been determined. At the block level, the inequality found in it tried to spread from the suitable maps.

Keywords: Net Sown Area, Arable Land, Availability Of Land, Rural Management, Diara Land.

Introduction

Man and land are the most important natural resource. Land is a space or habitat is always active with its own process of change, development and decay. It is a fixed, scarce, tangible and an innovative resource but being degradable and transferable entity, it could be sustainable only it properly used by the human which unlike land is in a continuous flux. Man as a social member, has attempted timely modification in use of land in response to his requirements and in this effort he uses, misuses and overuses the land. The trends in the use of land reveals a three dimensional reality in space, time and inter relationship. Cultivable land is occupying more areas of earth surface and this occupation of land is affected with time related space, to meet the demand of the growing population which is supported by the development in the relevant technology and infrastructure. Actually man land ratio reveals is a complex integrations of natural and human phenomena. Keeping in the mind the condition of growing population and fixed nature of land attempt should be establish the relationship between man and land. With the passage of time, as knowledge grows and culture advance, the relationship between man and his land also changes.

Land is a valuable natural resource. It gives us shelter to live and food to eat. In addition, all manmade cultural landscape is built and dependent the Earth itself. It is said that the, 'History of the Human civilization is actually the history of Soil.' In the words of famous determinist E.C. Sample, '' Man is the product of Earth surface.''[1] The population of World is increasing rapidly. Especially in developing Countries like India, its pressure is falling on all resources. A large population of these Countries is dependent on agriculture. The increasing population is reducing the share of land per capita. At present the ''availability of per capita Arable land is 2.14 hectare in Australia, 0.934 hectare in Argentina, 0.850 hectare in Russia, 0.514 hectare in USA, 0.365 hectare in Brazil, 0.281 hectare in France, 0.129 hectare in India, 0118 hectare in Pakistan and 0.083 hectare in China''[2]. In this situation, it seems necessary to find out the availability of per capita land in Lakhisarai district. .

Stuey Area

Lakhisarai District of Bihar is a part of middle Gangetic plain. It consists of seven blocks namely, Barahia, Lakhisarai, Pipariya, Halsi, Ramgarh chowk, Surajgarha and Chanan. Lakhisarai district lies between 25^0 N to $25^0$20' N latitude and $85^0$55'E to $86^0$25' E longitude, covers an area

of 1286 km^2. The District is bounded by the district of Begusarai in the north by Munger in the east, Jumui in south and districts of sheikhpura, Nalanda and Patna in the west. The northern part of the district is a fertile flood plain while western and southern part is an old alluvial plain and eastern part is a hilly tract. According to 2011 census, the total population of district is 1000912 persons[3]. Density of the population is 778 persons per km^2. ''Out of the total area 128602 hectare coverage of Forest is 696.47 hectare or 0.54 percent, NSA 73432.73 hectare or 57.10 percent, Current fallow 12549.51 hectare or 9.76 percent, Other fallow 6274.46 hectare or 4.88 percent, Cultivable waste land 13445.00 hectare or 10.45 percent, Miscellaneous trees and groves 305.30 hectare or 0.24 percent, Permanent pasture 52.73 hectare or 0.04 percent, Land put to non agricultural uses 14837.18 hectare or 11.53 percent and Barren and uncultivable land is 7008.98 hectare or 5.45 percent''[4].

Objective of The Study

Agriculture is the primary occupation of the people of Lakhisarai district. The problem of agriculture is high input and low productivity. The low income leads to low living standard and week infrastructure. Under prevailing condition it is necessary to examine the spatial and temporal variation in availability of land resources in Lakhisarai district. Present study is aims to find out the spatial and temporal variation in availability of land resources in Lakhisarai district. The purpose of present study is to determine the burden on agricultural land due to rapid growth of population. In the present agrarian situation the Lakhisarai district has to sustain not only its rural population particularly those directly dependent on agriculture but also has to make agriculture economically vibal and attractive.

Review of Literature

The study about land use and land availability is always a pivot area in Geography. Prof. L.D. Stamp laid down the foundation stone of systematic and scientific study of land use through his pioneer work of land use survey in Great Britain in 1930. In India land use study has taken a scientific trend after 1940. Notable pioneer geographers are Dr. Md. Safi, Dr. S.P. Chatterjee (Land Utilization in the district of 24 parganas Bengal, 1946), Dr. P. Dayal (Agricultural Geography of Bihar, 1947). It is worthy to mention the works of S.S. Bhatia (1965), B.N. Sinha (1975), Dr. K.K.L. Das (1979), Dr. B.N. Jha (1979), Anil kumar (1991), A.S. Farooque (1998), S. Borebora (2002), R.Chand (2003), V. Singh and A.K. Chaukar (2007).

Change In Per Head Share of Land Resource

The change in per head share of land resource highlights the changing scenario of population pressure on land resource in a particular year. In study area population is growing rapidly while land is fixed, so per head share of land is decreasing day by day.

Table no. 1

Showing change in per head availability of land: 2001- 2011

Blocks	Area (in hec.)	Population in 2001	Population in 2011	Per head availability of land in 2001	Per head availability of land in 2011	Change
1	2	3	4	5	6	7
Barahiya	23369.30	122741	128977	0.190	0.181	0.009
Pipariya	1789.50	31114	51496	0.057	0.035	0.022
Surajgadha	38919.91	224587	290998	0.173	0.134	0.039
Lakhisarai	23489.73	163351	221195	0.143	0.106	0.037
Chanan	19218.87	98520	107144	0.195	0.179	0.016
Halsi	11997.70	90800	115997	0.132	0.103	0.029
Ramgarh Chowk	9816.95	71112	85105	0.138	0.175	0.023
Total	128602.00	802225	1000912	0.160	0.128	0.032

Source: Self calculated on the basis of D.A.O. Lakhisarai and Census of India

Table no. 1 shows change in per head availability of land in Lakhisarai district. In 2001 per head availability of land is highest in Chanan 0.195 hectare followed by Barahiya 0.190 hectare, Surajgadha 0.173 hectare, Lakhisarai 0.143 hectare, Ramgarh chowk 0.138 hectare, Halsi 0.132 hectare and Pipariya 0.057 hectare respectively. In 2011 the ranking of blocks have changed. Barahiya is at the first rank with 0.181 hectare in 2001 it was at the second rank. In 2011 Chanan is at the second with 0.179 hectare, in 2001 it was at the first rank. In 2011 Ramgarh chowk is at the third rank with 0.175 hectare, in 2001 it was at the fifth rank. In 2011 Surajgadha is at the forth rank with 0.134 hectare, in 2001 it was at the third rank. In 2011 Lakhisarai is at the fifth rank with 0.106 hectare, in 2001 it was at the forth rank. In 2011 Halsi is at the sixth rank with 0.103 hectare and Pipariya is at the seventh rank with 0.035 hectare, both were at the same rank in 2001. At the district level per head availability of land in 2001 was 0.16 which decreased to 0.13 in 2011. This trend is also found at block level too. No block of district has witnessed positive trend. The negative change of variation between 2001 to 2011 is highest in Surajgadha 0.039 hectare followed by Lakhisarai 0.022 hectare, Halsi 0.029 hectare, Ramgarh chowk 0.023 hectare, Pipariya 0.022 hectare, Chanan 0.16 hectare and Barahiya 0.009 hectare.

Change in Per Head Share of N.S.A.

''Net area sown represents the area sown with crops at least once in any of the crop season of the year. This is the most important land use category which is essential for the existence of living beings and especially human beings''[5]. The food security and food sufficiency of any region can only be achieved by

increasing the productivity of land on which crop are grown as Net area sown.

Table no. 2
Showing change in per head availability of NSA: 2001-2011

Block	area (in Hec)	NSA (in Hec) 2001	NSA (in hec) 2011	Population in 2001	Population in 2011	Per head availability of NSA in 2001	Per head availability of NSA in 2011	Change
1	2	3	4	5	6	7	8	9
Barahiya	23369.30	18302.72	17710.95	122741	128977	0.149	0.137	0.012
Pipariya	1789.50	606.72	503.34	31114	51496	0.019	0.009	0.009
Surajgadha	38919.91	15567.68	14451.06	224587	290998	0.069	0.049	0.020
Lakhisarai	23489.73	13053.80	12505.44	163551	221195	0.080	0.057	0.023
Chanan	19218.87	10680.39	10231.73	98520	107144	0.011	0.095	0.015
Halsi	11997.70	8267.51	9915.25	90800	115997	0.111	0.085	0.026
Ramgarh chowk	9816.95	7658.55	8114.29	71112	85105	0.108	0.095	0.013
Total	128602.00	74137.37	73432.06	802225	1000912	0.092	0.073	0.019

Source : Self calculated on the basis of DAO Lakhisarai and Census of India

Table No. 2 shows per head availability of NSA in Lakhisarai district. In 2001 per head availability of NSA in the district is 0.092 hectare. At block level it recorded highest in Barahiya 0.149 hectare followed by Halsi 0.111 hectare, Ramgarh chowk 0.108 hectare, Lakhisarai 0.080 hectare, Surajgadha 0.069 hectare, Pipariya 0.019 hectare and Chanan 0.011 hectare respectively. In 2011 there is a change to the ranking of the blocks. In 2011 Barahiya maintain his first rank with 0.137 hectare. In 2011Chanan is at the second rank with 0.095 hectare, in 2001 it was at the seventh rank. In 2011 Ramgarh chowk maintain his third rank with 0.108 hectare. In 2011 Halsi is at the forth rank with 0.085 hectare, in 2001 it was at the second rank. In 2011 Lakhisarai is at the fifth rank with 0.057 hectare, in 2001 it was at the forth rank. In 2011 Surajgadha is at the sixth rank with 0.049 hectare, in 2001 it was at the fifth rank. In 2011 Pipariya is at the seventh rank with 0.009 hectare, in 2001 it was at the sixth rank. In 2001 per head availability of N.S.A. in Lakhisarai district was 0.092 hectare, falls to 0.073 hectare per person in 2011. The decadal variation is 0.019 hectare per person. At block level decadal variation is highest 0.024 hectare Per persons in Halsi followed by Lakhisarai 0.023 hectare, Surajgadha 0.020 hectare, Chanan 0.015 hectare, Ramgarh chowk 0.013 hectare, Barahiya 0.012 hectare. While Pipariya recorded minimum negative change in per head availability of N.S.A. is 0.009 hectare.

Change In Per Head Share of Areable Land

Arable land is defined by the Food and Agriculture Organization of the United Nations (FAO) as, '' Land under temporary crops (double cropped area are counted once), temporary meadows for pasture, land under garden or orchard and land that is temporarily fallow''[6]. In an area, Arable land is most important after NSA in terms of agriculture. In Lakhisarai district a large part of agricultural land is still depend on rainfall. In this case, when the Monsoon is normal, the share of NSA is increases in Arable land, while in the less rainy year, the share of current fallow becomes more. Under these circumstances, availability of Arable land becomes important in Lakhisarai district in terms of agriculture and it needs better management.

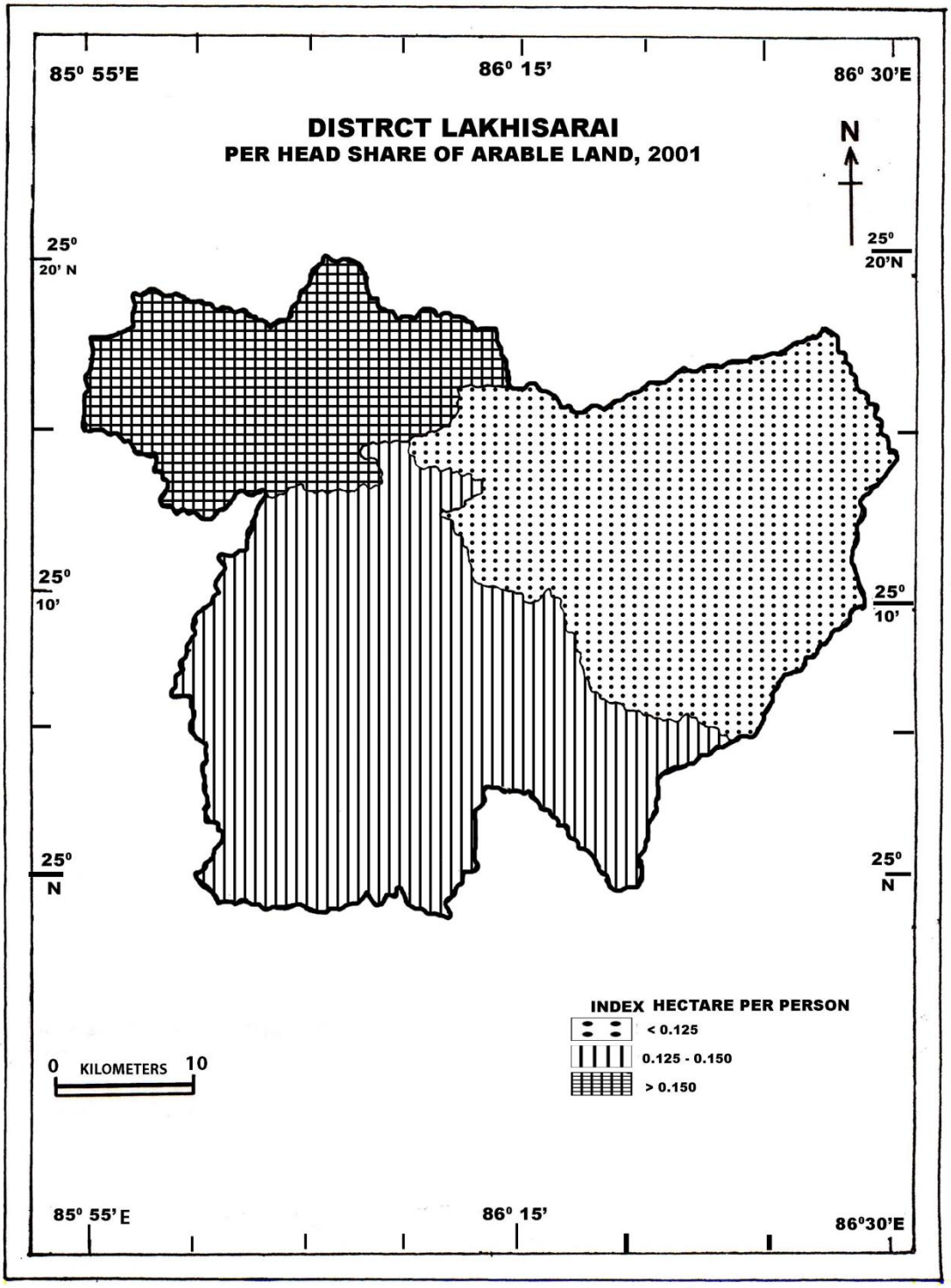
85° 55'E
86° 15'
86° 30'E
DISTRCT LAKHISARAI
PER HEAD SHARE OF ARABLE LAND, 2001
N
25° 20' N
25° 20'N
25° 10'
25° 10'
25° N
25° N
INDEX HECTARE PER PERSON
< 0.125
0.125 - 0.150
> 0.150
0 KILOMETERS 10
85° 55' E
86° 15'
86°30'E

FIG. 5.13

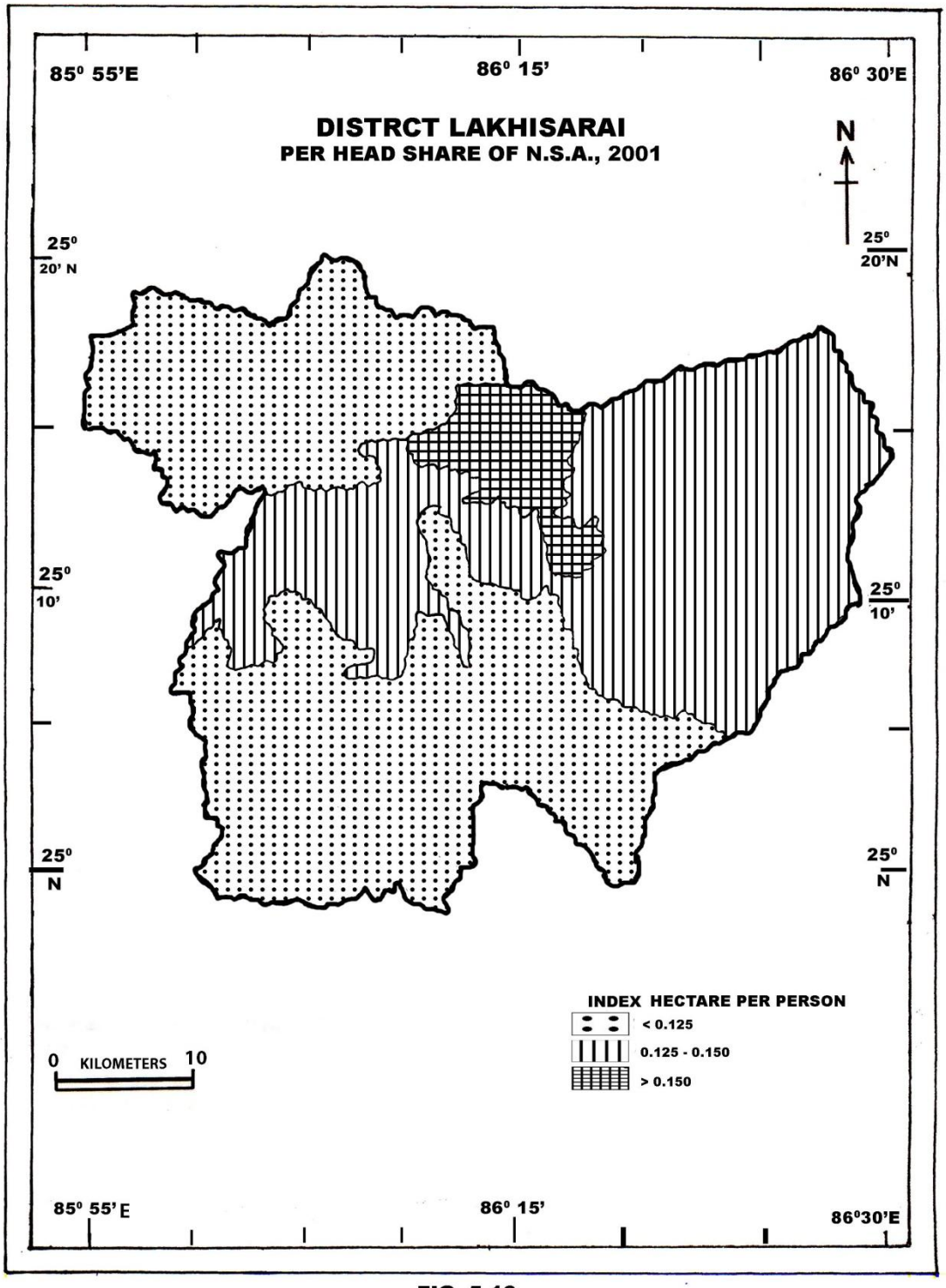
85° 55'E
86° 15'
86° 30'E
DISTRCT LAKHISARAI
PER HEAD SHARE OF N.S.A., 2001
N
25° 20' N
25° 20'N
25° 10'
25° 10'
25° N
25° N
INDEX HECTARE PER PERSON
< 0.125
0.125 - 0.150
> 0.150
0 KILOMETERS 10
85° 55' E
86° 15'
86°30'E

FIG. 5.10

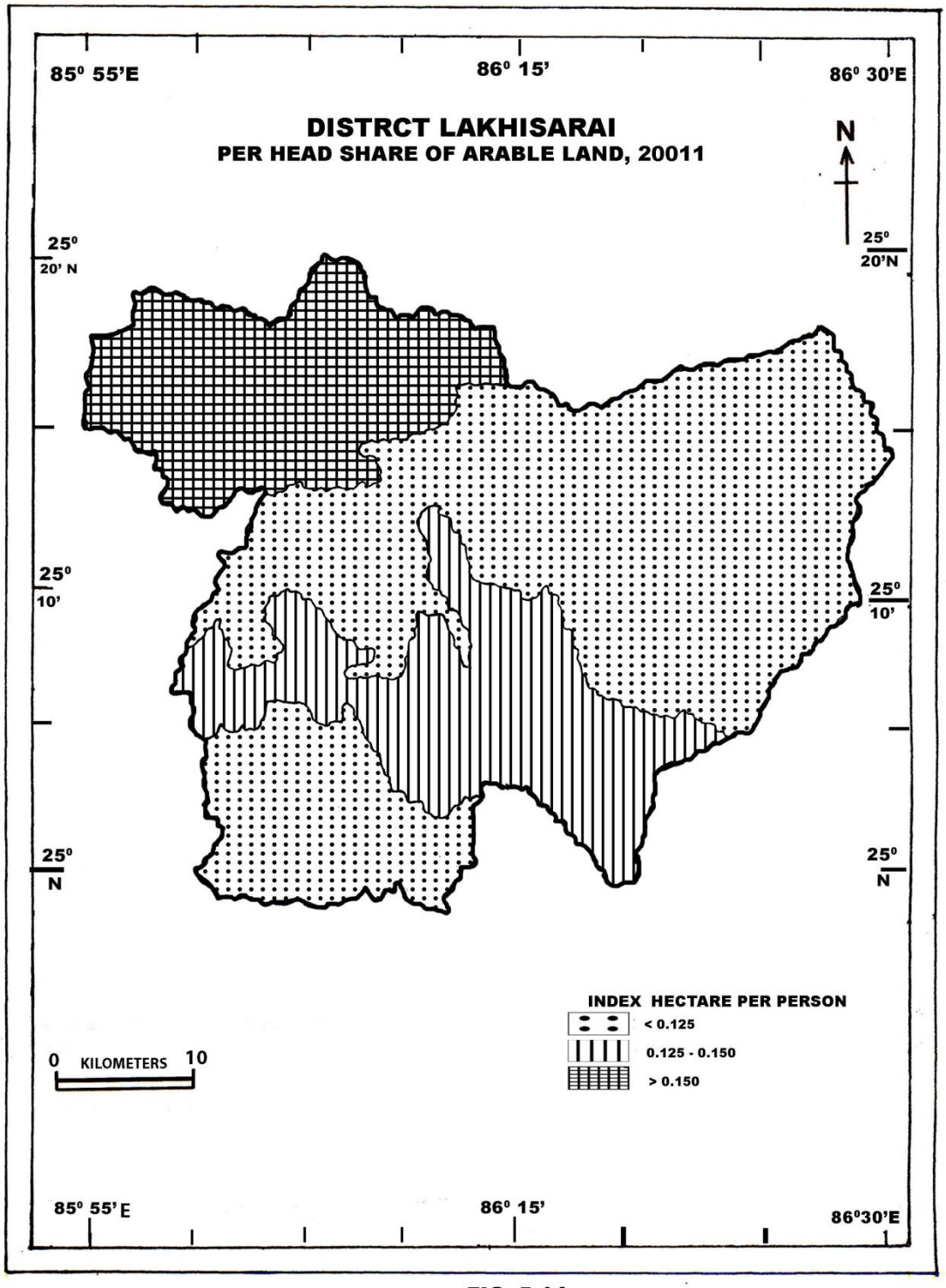
85° 55'E
86° 15'
86° 30'E
DISTRCT LAKHISARAI
PER HEAD SHARE OF ARABLE LAND, 20011
N
25° 20' N
25° 20'N
25° 10'
25° 10'
25° N
25° N
INDEX HECTARE PER PERSON
< 0.125
0.125 - 0.150
> 0.150
0 KILOMETERS 10
85° 55' E
86° 15'
86°30'E

FIG. 5.14

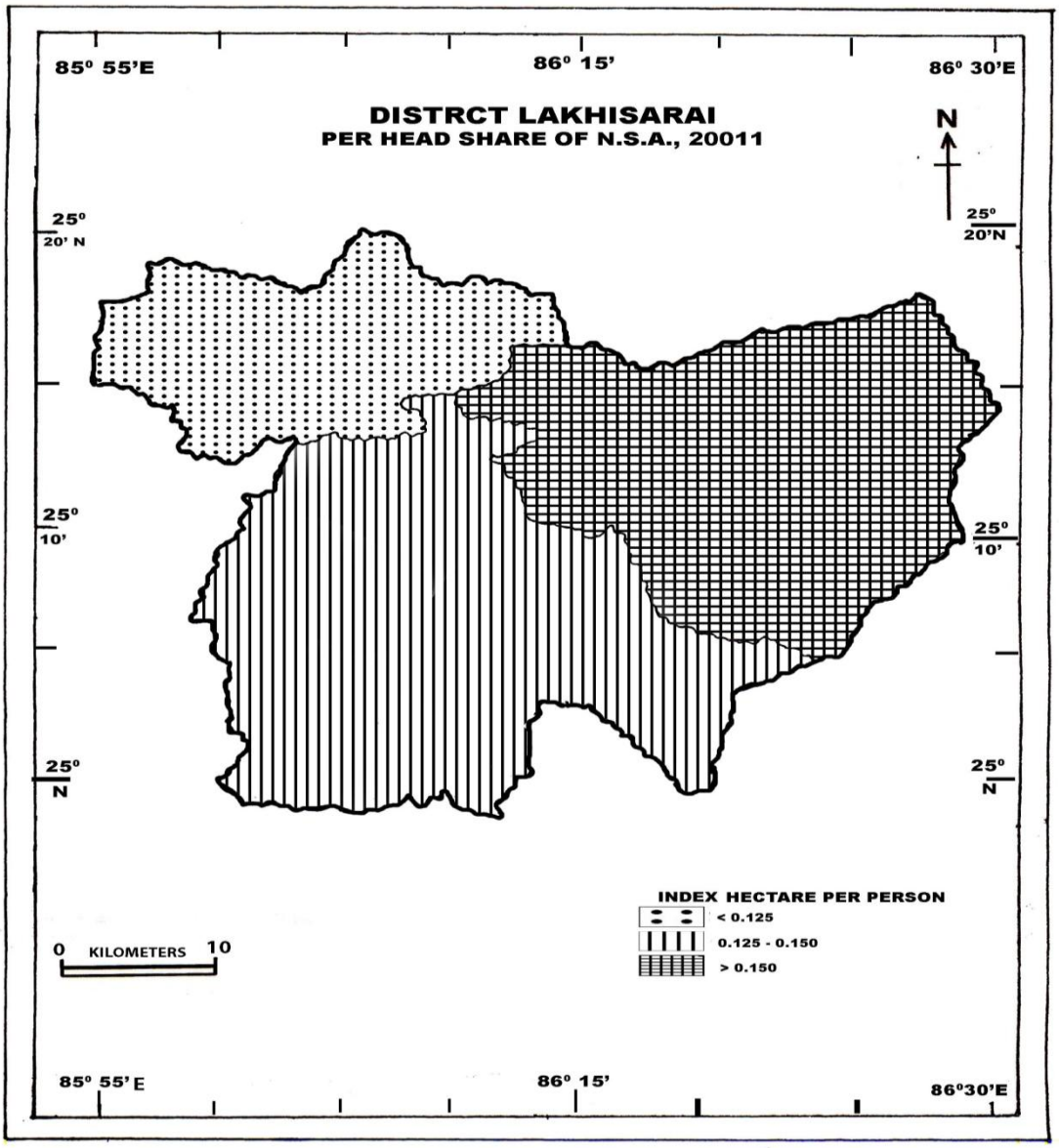

FIG. 5.11

Table no.3
Showing change in per head availability of Arable land -2001-2011

Blocks	Area (in hec)	Arable land 2001 in hec.	Population in 2001	Arable land 2011 in hec.	Population in 2011	per head availability of arable land in 2001	per head availability of arable land in 2011	Change
1	2	3	4	5	6	7	8	9
Barahiya	23369.30	20828.00	122741	20366.00	128977	0.169	0.158	0.011
Pipariya	1789.50	944.40	31114	880.00	51496	0.030	0.017	0.013
Surajgadha	38919.91	20084.82	224587	18827.88	290998	0.089	0.065	0.024
Lakhisarai	23489.73	17608.04	163351	17675.31	328339	0.089	0.053	0.035
Chanan	19218.87	14406.52	98520	14463.18	107144	0.146	0.135	0.011
Halsi	11997.70	11405.44	90800	11461.00	115997	0.126	0.098	0.028
Ramgarh chowk	9816.95	9331.67	71112	9379.00	85105	0.131	0.110	0.021
Total	128602.00	94419.62	802225	92952.54	1000912	0.118	0.093	0.025

Source: Self calculated on the basis of DAO Lakhisarai and Ccnsus of India

Table no. 3 shows per head availability of Arable land in Lakhisarai district. In 2001 per head availability of Arable land in district was 0.118 hectare. At block level it was highest in Barahiya 0.169 hectare followed by Chanan 0.146 hectare, Ramgarh chowk 0.131 hectare, Halsi 0.126 hectare, Lakhisarai 0.089 hectare, Surajgadha 0.089 hectare and Pipariya 0.003 hectare. No major change has been seen in the ranking of the blocks in the 2011. Only the ranking if Surajgadha and Lakhisarai have interchanged at fifth to sixth. The rest of the ranking of the blocks is the same as in 2001. In 2011 Barahiya ranks first with 0.158 hectare followed by Chanan 0.135 hectare, Ramgarh chowk 0.110 hectare, Halsi 0.089 hectare, Surajgadha 0.065 hectare, Lakhisarai 0.053 hectare and Pipariya 0.017 hectare. Table no.3 shows the decadal variation in per head availability of arable land in 2001 to 2011. Per head availability of arable land at district level was 0.118 hectare in 2001, degraded to 0.093 hectare per person in 2011. Decadal variation is 0.025 hectare. At block level decadal variation is highest in Lakhisarai block with 0.035 hectare followed by Halsi 0.028 hectare, Surajgadha 0.024 hectare, Ramgarh chowk 0.021 hectare, Pipariya 0.013 hectare, Chanan and Barahiya both are 0.011 hectare. The rapid growth of population putting pressure on land one hand and agriculture of study area is traditional other hand so Rural management is the demand of time.

Rural Management

Rural management is concerned with the development of rural areas with rational use of resources. It aims to bring all positive changes in the rural life by effective planning and organization as well as taking proper care of the infrastructure development. Under this an attempt is made to remove all the obstacles which become hindrances in rural development. ''Rural management also aims to creating an effective rural system that integrates operations, marketing, finance, human resource, information and technology for achieving the overall effectiveness and efficiency''.[7] The objective of Rural management is to develop a strategy to ensure the progress of the rural areas with interlink the developed and backward parts by the suitable application of tools, technology and concepts. In Lakhisarai district more3 than 90 percent of population lives in village, where agriculture is the main source of livelihood. The nature of the agriculture is traditional and there is a possibility of its development. There is a lake of basic infrastructure in the village also. Rural management can be done in these circumstances to the welfare of agriculture and villages.

Conclusion

The interrelation of man and land is unbreakable. Both are complementary to each other. Man has made use of land resources with their known knowledge and technology. But in developing countries rapid growth of population is putting pressure on land resources. Due to this per capita land availability is decreasing day by day. This also appears to be true in the context of Lakhisarai district. In 2001 per head share of total land in district is 0.160 hectare which decreases 0.128 hectare in 2011. Like this availability of N.S.A. decreases 0.092 hectare to 0.073 hectare and Arable land falls 0.118 hectare to 0.093 hectare. There is a need to develop traditional agriculture to meet the challenge of decreasing per capita availability of land. For a substantial increase in the income of farmer, agricultural produces should be connected to the market and agriculture based industry should be established. Farmers should be provided information about weather conditions, agricultural machinery ands new innovative research. This challange can be better dealt with Rural management.

Suggestions

1. To improve the productivity of land.
2. It is necessary to increase the double and triple cropped area.
3. Traditional water bodies should be encroached free to ensure irrigation .
4. To provide enough electricity for agriculture to develop the artificial irrigation.
5. In order to increase the Net sown area, it is necessary to reduce the share of current and other fallow land. For this, there should be develop special facility for irrigation at the time of crop showing.
6. It is necessary to link the agricultural products to market without the help of middleman.
7. Farmers should be encouraged to cultivate on maximum area by arranging easy and accessible loans.
8. Farmers should grow the Commercial and Medicinal crops.
9. In addition to agriculture, farmers should adopt occupation like Animal husbandry, Poultry, Apiculture, Sericulture and like others.
10. There is a dire need to set up the Food processing industry in the Lakhisarai district.

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