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ANALYSIS OF LAND USE AND AVAILABILITY OF AGRICULTURAL LAND: A CASE STUDY OF TEHSIL MAHARAJGANJ, DISTRICT RAEBARELI, U.P.

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Abstract: *The financial advancement of any nation depends ashore assets and land assets. Because of increment in population, these assets are over extended regularly prompting asset exhaustion. There is consequently need to wisely deal with these fragile assets. This paper attempts to examine the present scenario of land use and land cover which is engaged in agricultural activities and other activities of the tehsil. Map is used to present net sown area of different intensity of tehsil. The base layers like administrative boundaries, road network, mapping of water bodies, etc. are created on map. Tables and graphs are used to show land use data of various categories. Unit of study is divided into gram panchayat i.e. 147 gram panchayat. Farming is the main production activity in Raebareli district. About 60-65 per cent of the people who are working are depends on farming for their livelihood. They could be farmers or farm labourers. Analysis of occupation depends on the variety of the socio-economic activities in the area.*

Kew words: Land use, Agriculture land, Productivity, Farming, Livelihood.

Introduction
Activity decides the life style and living standard of any family. Region and climate give the opportunity to choose their favorite activity. In the rural area people mostly choose primary activity and some people choose secondary and tertiary activity. Most of the population is labour. In Maharajganj tehsil there are two or three heavy industries for secondary activities like Reliance cement, Vishakha Seats. These are the heavy industries in the tehsil for engaging people in the secondary activities and some local manufacturer like bricks, handlooms, furniture, Iron based workshops pottery and others. In the tertiary sector banking, teaching, transport providers, mechanics, shop keepers, street venders, and private and government employee. But these activities cover small proportion of population and house hold of the area. Large amount of population engage in the primary activity mainly in the agriculture and cultivation. More than 60 percent of population depends on agriculture (cultivation). Therefore land is more important in the area. Increasing demand may include changes in the choice of crops, crop rotations, utilization of crops, and intensity of production. Trends include technical solutions to remove yield limiting factors, such as water availability for crops, and increasing use of agricultural biomass as a source of renewable energy. It is often supported by government legislation. A well-developed canal grid system covers the region. Occupational structure is more valuable for agricultural development. In the region (tehsil) high per cent of land is available for cultivation because a large number of people depend on agriculture.

Location of Study area
Maharajganj tehsil is situated in Ganga plain region in district Raebareli (U.P.). Raebareli lies in the middle part of Uttar Pradesh. The district is irregular in shape, but fairly compact. It forms a part of the Lucknow Division. Tehsil is well connected from district headquarter and

state headquarter by road. It is 35 km. from Reabareli and 65 km. from Lucknow. It lies between Latitude 26^0 36' North to 26^0 20' North and Longitude 80^0 59' East to 81^0 24' East. On the north, it is bounded by tehsil Mohanlalganj of Lucknow district and tehsil Haidergarh of district Barabanki, on the east by tehsil Musafirkhana of district Amethi and on the south by Sadar tehsil of district Raebareli and in the west lies the Purwa tehsil of district Unnao. Tehsil Maharajganj has 3 main blocks Maharajganj, Bachharawan, and Shivgarh and one partial part of Amawan block. There are 25 nayay panchayt, 147 gram panchayat and 211 revenue village. Total area of district is 4,609 km² and tehsil is 734.14 km^2. Maharajganj tehsil has total population of 414470 in which 199864 women and 214606 males and total house hold is 78408 is a part of entire population. Tehsil Maharajganj has well connected by canal system of Sharada canal maximum area of tehsil covered by it. Villages are connected by pitch road with link road to district. Canal is main source of irrigation in the region.

Figure 01: Location of Study Area
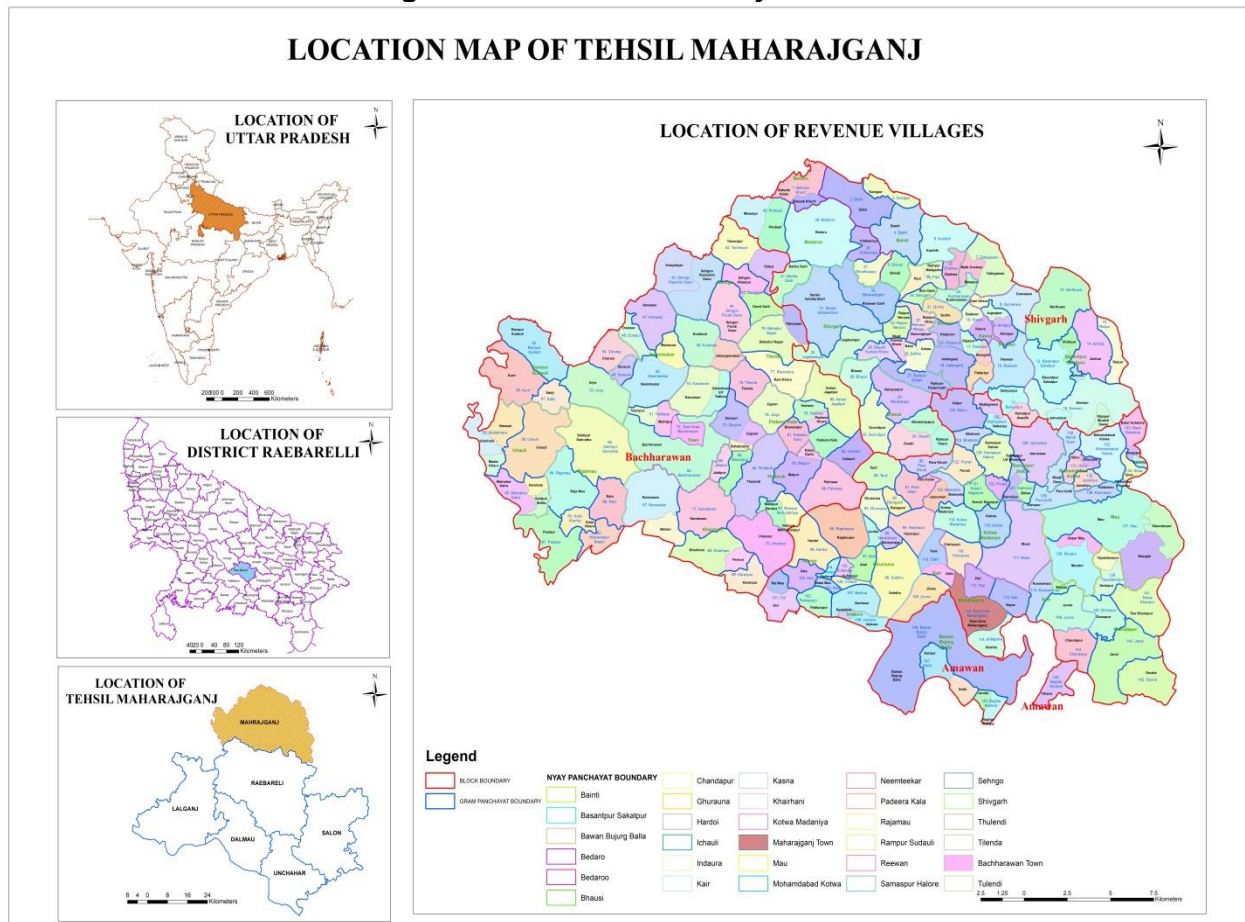
Objectives of the Study Are
- To study the availability of land for agriculture.
- To study the land use pattern of area.

Methodology and Analytical Framework
The following methodology is adopted in the present study to meet the above mentioned objectives. The present study is based on secondary data collected from tehsil record from Milan Khasra of Patwari and population data from census hand book of district Raebareli. The base map is generated.
- Location map was created.
- The base layers like administrative boundaries, road network, mapping of water bodies, etc. were created.
- Cropping and land use data corresponding to the study area.
- Table and different statistical tools are use.
- Graphs are used for data representation.

Table 01: Land Use: Tehsil Maharajganj district Raebareli U.P., 2015-2016

Category of Land	Area (in Hectares)	Area (%)
Net Sown Area	38073	52
Uncultivable Land	11819	16
Area Under Forest Cover	2543	3
Pasture	996	1
Cultivable Waste Land (Not Sown)	20223	28

Table 02: Block wise Land use of Tehsil Maharajganj, 2015 - 2016

#	Block	Total Area of Gram Panchayat	Uncultivable Land (Non Agriculture) (%)	Area Under Forest Cover (%)	Pasture (%)	Cultivable Waste Land (Not Sown) %	Net Sown Area In Total Area (%)	Total
1	Amawan	3133	10.82	1.72	1.5	35.21	50.75	100
2	Shivgarh	19527	18.08	2.89	1.16	25.84	52.03	100
3	Maharajganj	23492	16.606	5.121	1.592	26.63	50.051	100
4	Bachharawan	27262	14.849	2.645	1.277	27.799	53.43	100
	Tehsil Total	**73414**	**16.099**	**3.464**	**1.357**	**27.219**	**51.861**	**100**

Above table show blocks wise land use of tehsil. In the Bachharawan block net sown area is greater than any other block while Maharajganj block have lowest net sown area. 35.21 per cent area in Amawan block in cultivable waste land while in the Shivgarh it is lowest only 25.84 per cent. In the Maharajganj block forest area is higher than any other block it is 5.12 per cent it greater than tehsil average.

Land use/ Land cover
Knowledge of land use and land cover is important for many planning and management activities concerned with the surface of the earth. The term land cover relates to the type of feature present on the surface of the earth, wheat fields, roads, rail tracks, lakes etc. are the examples of land cover types. The term land use relates to the human activity or economic function associated with a specific piece of land. As an example, tract of land on the fringe of an urban area may be used for family housing (Thomas M. Lillesand and Ralph W. Kiefer). The study area consists of different land use/land cover classes. The classes are as follows: agricultural land, wasteland, water, and urban or built-up land. The land use/land cover classification is based on the Level-I. The maximum land use/land cover is by agricultural land, the wasteland occupies the second place in classification. After waste land the third category is uncultivable land.

Land use Pattern
The land use classifications mean ding information on land cover, and providing from work to satisfy the basic needs of the community of respective regions. Land classification is based largely on the quality and intensity of the land utilization (Mohammad Ali, 1978). The land use of the reporting area is categorized into five main categories of land use pattern. The table No. 2 explains the agricultural land use of reporting area. Land use is always related to conservation of land resources. It is not easy to convert urban land to agricultural land use, but an unprecedented change in forest regions and cultivable waste land can manage through human efforts. We can increase net sown area by extra effort to decrease cultivable waste land. In the figure No. 3 pie chart shows that 52 percent per cent net sown area but it is low in respect to the dependency of population of the region. There are huge amount of the cultivable waste land that can be changed into cultivable land by use of proper technique and management. Cultivable waste lands include fallow land, land under shrub and bamboo. This can be increase the earning of the people of the region by the development of the related products or land can be converted into cultivable land. That can increase production of the region. There is, thus, an urgent need to evolve and adapt land-saving technologies for better utilization of agricultural potentials.

## Table 03: Net Sown Area of tehsil Maharajganj, 2015-2016

Category			Name of the Village	Total No. of Village	Village (%)
Very Low	> 40%	I	Town Area Mahrajganj, Town Area Bachharawan, Sothi, Baghai Ahalwar, Bawan Bujurg Balla, Bahudakhurd, Pindauli, Dhodhwapur, Chitwaniya, Bankagarh, Bedaroo, Dahigawan, Surajpur, Kumbhi, Dehli	15	10.20
Low	40% - 50%	II	Shivali, Bainti, Osaah, Govindpuur, Narayanpur Khajuro, Gurha, Bhausi, Basantpur Sakatpur, Seewan, Achhai, Raipur, Nerthuwa, Aimapur, Bariyarpur, Gumanwa, Reewan, Jadavganj, Padariya, Kumharawan, Kasna, Pipri, Rampur Khaas, Basant Kunwar Khera, Raipur Neruva Kotva, Dhekwa, Saray Kshatardhari, Jagdeeshpur, Bhavanigrh, Shivgarh, Jyona, Kushamhura, Oathi, Pali, Atrehta, Kair, Tajuddeenpur, Doutra, Domapur, Teesa Khanpur	41	27.89
Medium	50% - 60%	III	Janai, Chandapur, Kaindawa, Muraini, Mau, Raghaupur, Indaura, Barhua, Oot, Pakhanpur, Atra, Balai Mau, Chilauli, Hazipur Sultaanpur, Hardoi, Alipur, Purasi, Majhigawan, Pure Achli, Jamurawa Kakkepur, Bhatsara, Samaspur Halore, Sirsa, Baari Gohanna, Jamoliya, Hilha, Manjhgaon, Mohamdabad Kotva, Hasanpur, Salethu, Parakhurd, Parakala, Tauli, Narayanpur, Asni, Ramgaun, Ghurauna, Moan, Pokharani, Baskanta, Kusurhi Sagarpur, Kubna, Kotva Madaniya, Hanswa, Padeerakala, Ashan Jagatpur, Uchauri	49	33.33
High	60% - 70%	IV	Jingo, Malpur, Rampur Mohuddinpur, Pahnasa, Rasoolpur, Jalalpur, Jalalpur, Thulendi, Dundgarh, Tamanpur, Sehngo Paschim Gaun, Sehngo Purab Gaun, Devpuri, Kasrawan, Ranikhera, Bahadur Nagar, Tilenda, Karanpur, Umarpur, Bannawan, Kandawan, Kandawan, Khanirhani, Todarpur, Bachharawan, Kundauli, Amawan, Dostpur, Saraura, Neemteekar, Churwa, Isiya	30	20.41
Very High	70% <	V	Sabji, Kurri, Rampur Sudauli, Mainahar Katra, Madakhera, Madakhera, Ichauli, Shedhpur Samodha, Kalui Kherha, Rain Pastaur, Mubarakpur Saapo, Rajamau	12	8.16
Total	5	5		147	100.00

Net sown area is the total area sown with crops and orchards. It represents an area in which total crops are grown only once in a year. The net sown area of the region is normal. There are five categories of villages in respect to availability of land for sown. First is very low (less than 40 per cent), second is low (40 per cent to 50 per cent), third is medium (50 per cent to 60 per cent), fourth is high (60 per cent to 70 per cent) and last is very high (greater than 70 per cent). Very low net sown area is available in 10.20 per cent of the village of tehsil whereas very high net sown area is available in only 8.16 per cent of the village of tehsil. Which show the difference in availability of land for cultivation. Large No. of villages (27.89 per cent) in under the low availability of land for sown. The highest per cent of villages (33.33 per cent) are under the medium cultivated land available in the village.

Net Sown Area

Map shows different part of tehsil for availability of net sown area. Very high and high per cent of net sown area is available in the western part of tehsil because of availability of resources in region availability of water supply, connectivity of canals. Middle and east part of tehsil is under medium net sown area. Town area Maharajganj and Bachharawan is densely populated therefore very low net sown area is available. Northern and Southern part of tehsil is availability of very low and low net sown area. It indicate that people of the Northern and Southern part of tehsil is depend less than western part tehsil on land.

Figure 02: Net Sown Area of tehsil Maharajganj
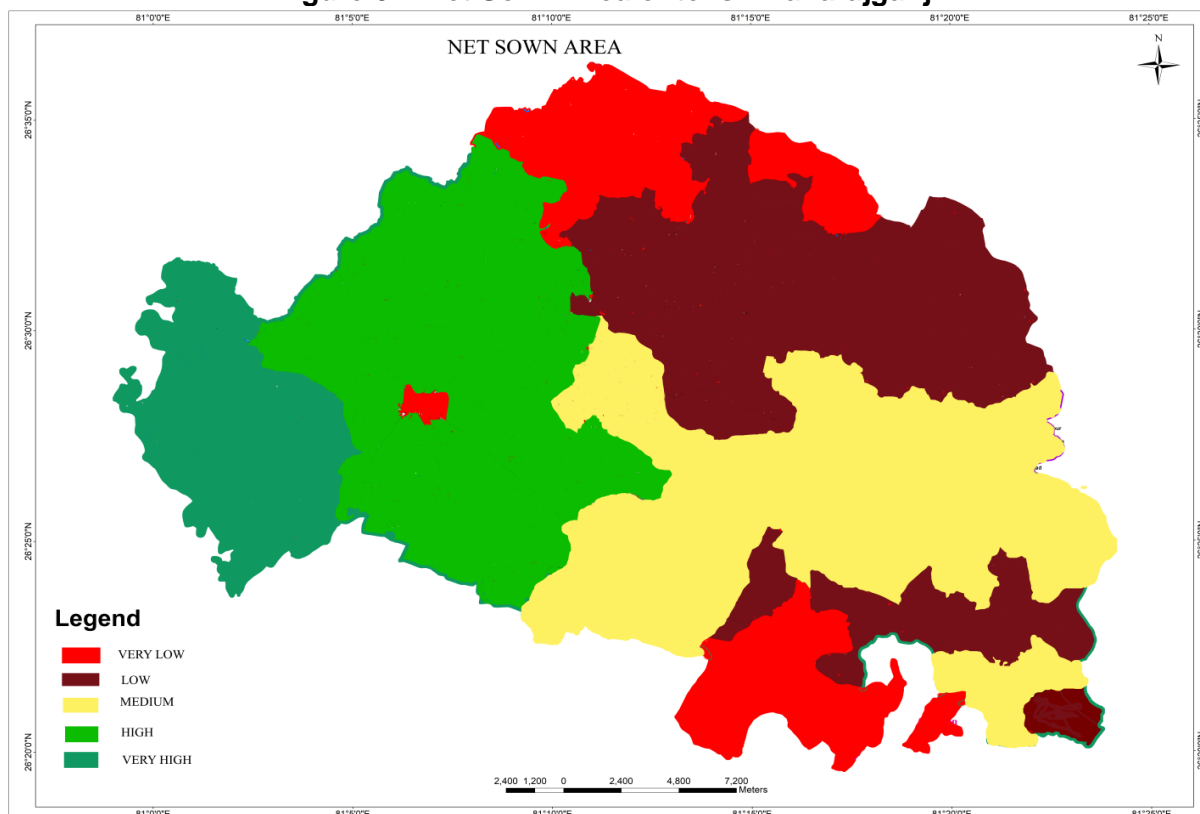
Cultivable Waste Land

It includes miscellaneous tree crops, groves and culturable waste land and it also include fallow land. The miscellaneous tree crops and groves are grown in the areas not included in the net sown. All the culturable land put to some agricultural use, but not included under 'net area has sown', is included under this class. The lands under thatching grasses, bamboo bushes and other groves trees for fuel, etc., which are not included under orchards, are placed under this category. The culturable waste land included lands available for cultivation, whether or not taken up for cultivation or abandoned after a few years for one reason or the other. Such lands may be either fallow or covered with shrubs and jungles which are not put to any use. They may be assessed or unassessed and may be in isolated blocks or within cultivated holdings. The land, once cultivated but not cultivated for five years in succession, is included, in the this category. It is a sort of residual class which includes all uncultivated lands not accounted for any other class.

Fallow Lands

The fallow lands, other than current fallow, include all lands which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years. Against this, the current fallow comprises cropped areas which are kept fallow during the current year. There is a close relationship between the fallow lands and the net area sown. Good and timely rainfall, weather conditions, prices of agricultural commodities, political stability, security of tenure and tenancy conditions help in increasing the area sown, which represents the actual physical area under crops and orchards (Hussain Majid, 1996).

The data shows five category of village that grouped in having different percentage of cultivable waste land. First category is very low cultivable waste land. In these villages have only less than 20 per cent cultivable waste land. It means pressure on land is very high 23.81 per cent village on this category. Second category is low (20 per cent to 30 per cent) area of village under cultivable waste land. Third medium (30 percent to 40 per cent) area of village under cultivable waste land. Fourth high (40 per cent to 50 per cent) area of village under cultivable waste land and last is very high (above 50 per cent) area of village under cultivable waste land. Very high per cent cultivable waste land means half of the land of village is not sown or we can say that half of the village area is not useful for agriculture. It is not use in

any productive purpose. This is the barren land fallow land, land under shrub and bamboo. This can be reduce and converted into agricultural land and increase sown area by the human effort and using better technique and management. In the high per cent of cultivable waste land is only 2.7 per cent of village of tehsil but in medium category a very high percentage of the village that shows a large no of village are not available for converting land from cultivable waste land to net sown area.

Forest

Forest is an important asset of country. Area under forests includes all actually forested areas or land classed or administered as forests under any legal enactment dealing with forests whether state-owned or private. If any portion of such land is not actually wooded or put to some agricultural use that portion is included under the appropriated head of cultivated or uncultivated land. It is very important for society and important for survives species. Forest is a major component of environment, without forest we can't think life. It gives us many resources without any payment like fresh air as well as maintain temperature and precipitation in the area. Besides of this forest give us wood for commercial purpose like furniture, timber and also main use in cooking. Dhak, Khair, Babul, Mahua, Sheesham, Neem, Kanji, Siras, Eucalyptus, Mango and Jamun. Pipal, Baniyan, Pakar, Gular, Chilbil, Arjun are common tree and Teak, Papular are rare tree. Groves in the district are mostly of mango and Mahua Shisham. Shisham Teak is costly wood use in furniture. Only 3 per cent area of the tehsil is under forest cover. In the region 55 per cent village of tehsil having less than 2 per cent forest area in the village, it is very low area under forest. About 19 percent villages having 2 percent to 4 percent area under forest cover and 8 percent villages having 4 percent to 6 percent area under forest cover which is medium of the region. Only 10 percent of village having more than 8 per cent area under forest cover.

Uncultivable land

This stands for all land not available for agriculture means land used in other purpose besides agriculture. It is classified into different categories such as land used in settlements, buildings, industrial undertaking, road, canal, cemetery, crematory, bridge, land under the control of Army, Railway and others paramilitary force and all other lands put to any other non-agricultural uses. In the tehsil only 3 percent of land under uncultivable land means land not available for primary activities. The data shows that villages are categories into five categories on the basis of availability of uncultivable land in the villages i.e. Very Low, Low, Medium, High and Very High. 7.48 percent village have very low (below 20 percent) area under uncultivable land, 39.46 percent village have low (20 percent to 30 percent) area under uncultivable land, 31.29 percent village have medium (30 percent to 40 per cent) area under uncultivable land, 17.01 per cent village have high (40 percent to 50 per cent) area under uncultivable land and only 4.76 percent village have very high (above 50 percent) area under uncultivable land in the village.

Pasture

It included permanent pastures and other grazing lands. The permanent pastures and other grazing lands cover all grazing lands, whether they are permanent pastures and meadows or not. The common land in the villages and grazing land within the forest areas are included under this head. Pasture is very important land in the village. This is the community land available for common use of resident of village. It can't be occupied by any person of village. One per cent land of tehsil occupied by pasture. The data shows that villages are categories into five categories on the basis of availability of pasture land in the villages i.e. Very Low, Low, Medium, High and Very High. 45.58 per cent village have very low (below 1 percent) area under pasture land, 25.17 percent village have low (1 percent to 2 per cent) area under pasture land, 13.61 percent village have medium (2 per cent to 3 per cent) area under pasture land, 7.48 percent village have high (3 per cent to 4 percent) area under pasture land and only 8.16 percent village have very high (above 5 percent) area under pasture land in the village. It means approx. half village of the tehsil having very low area under pasture it have only below one per cent.

Conclusion

The present study of tehsil Maharajganj, district Raebareli shows the presentation of different category of land use. The tables and diagram indicated land is available for converting into cultivable land by the using of different techniques and better planning. The new approach to agricultural development and land use planning can provide an opportunity to get employment generation, poverty alleviation, community empowerment and development of other economic activity of the rural areas. The state government, local community and business houses should establish a public policy framework to support new agricultural economic era development. After the analysis of land-use availability of land for agriculture it mean availability of work for the labours, which increase money power of local people and increase production mean availability of food in reasonable price for sustainability.

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