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Agriculture mechanization in Siddhartha Nagar: block-wise comparative study

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Abstract: Siddhartha Nagar, a city in northern India, has witnessed a remarkable journey of agricultural development over the years. The agricultural sector in this region has evolved significantly, driven by changes in technology, government policies, and the ingenuity of the local farming community. This transformation, which spans several decades, has not only improved the farmers' livelihoods but also contributed to the region's overall economic growth.

Keywords: Agriculture, Technology, Siddhartha Nagar, Northern India

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Introduction:

Siddharthnagar district historically belongs to the Shakya dynasty the birthplace of lord Buddha. The district shares boundaries with the Republic of Nepal. The district has 14 blocks. It is one of the aspirational districts according to the government of India.

Objective:

Analyzing Technological Adoption: To study the block-wise adoption of mechanization, especially tractors and cultivators.

METHODOLOGY:

The study is based on secondary data from the fourteen blocks of Siddharthnagar district collected from the office of 'The Directorate of Economics and Statistics Government Of Uttar Pradesh.

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Technological Advancements

The transformation of Siddhartha Nagar's agriculture began with the introduction of the Green Revolution in the 1960s and 1970s. This period marked a turning point in the history of Indian agriculture. High-yielding varieties of seeds, along with improved irrigation methods, were introduced, significantly boosting crop production. Siddhartha Nagar, too, embraced these innovations Technological advancements have been at the forefront of Siddhartha Nagar's agricultural development. The adoption of modern farming practices, mechanization, and precision agriculture techniques has enhanced productivity. The introduction of tractors combine harvesters, and other farm machinery has reduced the physical labor required in farming, making it more efficient and less labour-intensive.

Tractor:

Today, the significance of "power" in agriculture is well understood. Through timely farm operation, compliance with crop-husbandry practices, and an increase in productivity, tractor usage increases agricultural production, thereby increasing returns and savings. It makes it easier for agricultural inputs and, more importantly, agricultural goods to get from rural areas to markets in time for sale. It is likewise a wellspring of force in working different machines like water system siphons, winnowers, harvesters, sprayers, and so forth. According to Mandal and Maity, 2013, There is a chance that India could experience yet another "green revolution" as a result of advancements in tractor manufacturing. The block-wise distribution shows In the year 2000 Itwa with lowest index value of 36.15 the other two blocks with a below 100 index are Bansi and Shohratgarh. The highest index value of 297.94 was observed in Dumariyaganj, Barhini with an index value of 178.93, and Khuniyaon with a value of 157.5 lies in medium value index between 100 to 200 along with the rest of the blocks.

In the year 2020-21 lowest index value of 65.62 lies in Bansi, with Itwa at 67.93 and Bhanwapur at 98.37. The highest Index value of 350.93 lies in Birdpur with Dumariyaganj at 332.55 and Khuniyaon at 213.5. While the medium index value between 100-200 lies in the rest of the blocks.

On the growth front, only negative growth was observed in Bhanwapur with lower growth in the Jogia, Barhini, and Dumariyaganj blocks while the highest growth was in Birdpur along with Itwa and Mithwal.

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No. Of tractors per 10,000-hectare gross cropped area			
Blocks	**2000-2001**	**2020-2021**	**Growth in percent**
Khuniyon	157.5	213.5	35.56
Itwa	36.15	67.93	87.91
Bhanwapur	98.67	98.37	-0.30
Barhni	178.93	197.51	10.38
Shohratgarh	95.88	129.82	35.40
Birdpur	104.02	350.93	237.37
Naugarh	120.77	137.86	14.15
Jogia	123.84	125	0.94
Uska bazar	142.52	180.26	26.48
Dumariyaganj	297.94	332.55	11.62
Bansi	57.38	65.62	14.36
Mithwal	96.15	154.62	60.81
Kheshraha	122.79	150.5	22.57
Lotan	N.A	N.A	N.A

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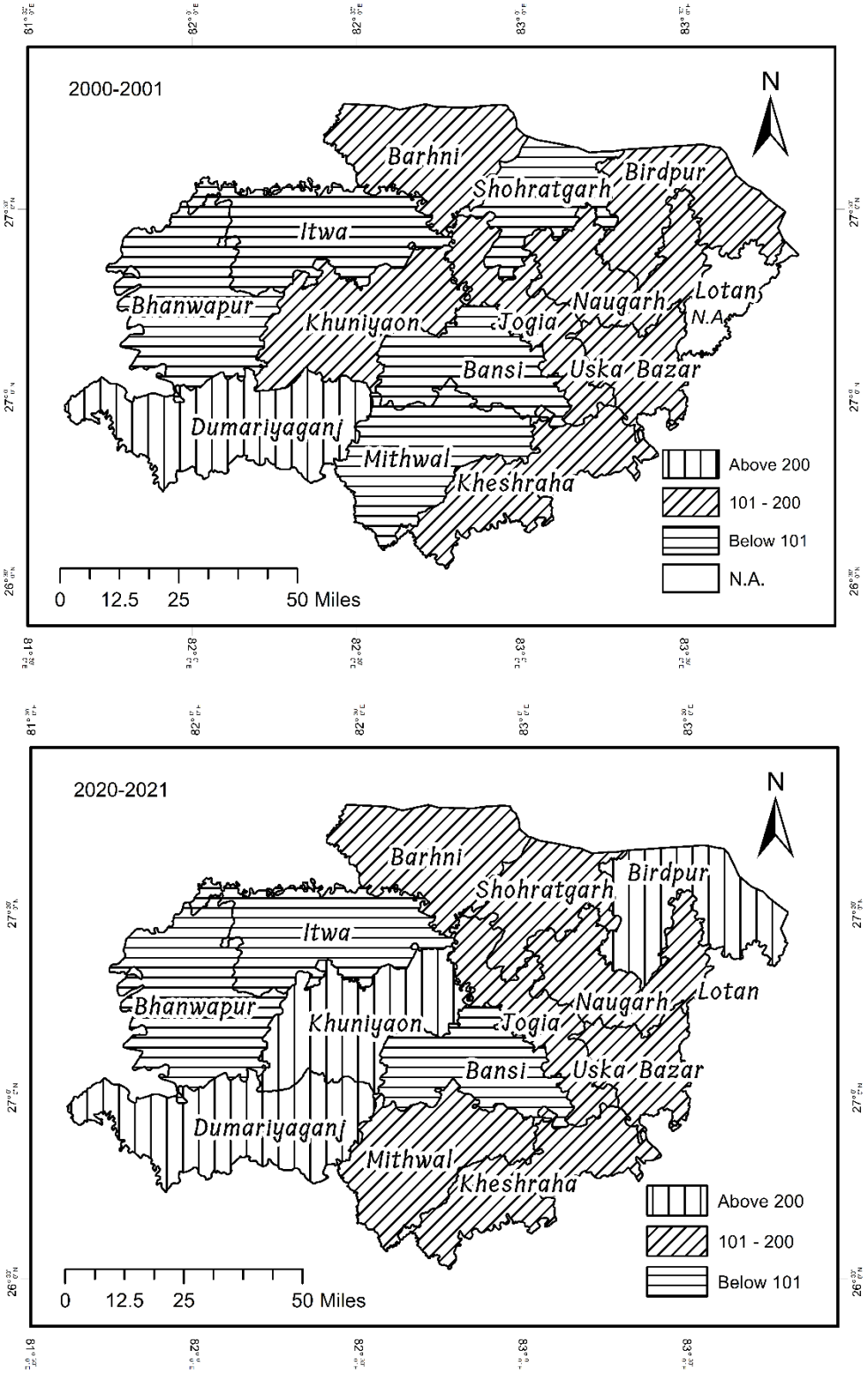
Siddharthnagar: Tractor



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Advanced Harrow and Cultivator: A cultivator is a type of farm equipment for dragging soil or tillage. It has resemblances to men's sharp teeth that break up the soil. Small cultivators, which are used for gardening, farm cultivators, which are tractor-mounted tiller cultivators pulled by tractors, field cultivators, which are used to prepare the seedbed for the final plantation, and raw crop cultivators, which are used to control weeds, are examples of different types of cultivators (Sahu et al., 2017)

Improved Harrow and Cultivator Per 10,000 Hectare			
Blocks	2000-01	2020-21	Growth
Khuniyon	385	830	115.58%
Itwa	415	683	64.58%
Bhanwapur	495	837	69.09%
Barhni	555	661	19.10%
Shohratgarh	578	845	46.19%
Birdpur	632	681	7.75%
Naugarh	420	536	27.62%
Jogia	430	762	77.21%
Uska Bazar	480	611	27.29%
Dumariyaganj	885	2294	159.21%
Bansi	685	1510	120.44%
Mithwal	613	1415	130.83%
Khesraha	415	700	68.67%
Lotan	N.A.	508	NA

The total number of advanced harrows and cultivators was 6988 in 2000-01, which increased to 12873 in 2020-21 in the region. The table shows the block-wise distribution of advanced harrow and cultivators per 10,000 hectares of the gross cropped area in Siddharthnagar district during 2000-01 It shows that only Dumariyaganj block is found under high intensity of advance harrow and cultivators with an index value of more than 800, while it is low in with an index value of less than 601 in four

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blocks namely, Khuniyaon, Itwa, and Bhanwapur. Barhini. Shohrathgrh.Naugarh, Jogia, UskaBazar, and Khesraha and the remaining two blocks namely, Mithwal, Bansi, and Birdpur come under the medium category with values between 601 to 800.

On the other hand, indicates that during 2020-21, all blocks have been reported fixed position over the base year under the high, medium, and low category in terms of concentration of advance harrow and cultivators per 10,000 hectares of the gross cropped area in the region. However, the concentration of advanced harrow and cultivators has significantly increased over the years. An index value of 800 per 10,000 hectares of the gross cropped area is included in the zone of high concentration lies in Dumariyaganj, Bhanwapur, Shohrathgrh, Mithwal, and Bansi Khuniyon. , while an index value less than 601 confers to the low. concentration and there are only two blocks Naugarh, Naugarh and the value in between the high and low comes under the category of medium concentration 601 to 800 lies in Barhini, Birdpur, Itwa, Jogia, and UskaBazar. However, all blocks have manifested positive growth rates in the use of advanced harrows and cultivators in agricultural practices. A significant positive growth rate is observed in the block of Dumariyaganj (59.21 percent) followed by Mithwal(130.83 percent), Bansi(120.44 percent), Khuniyon (115.58 percent), while the lowest growth is observed in Birdpur Block (7.75 percent). The moderate growth lies between 19 to 69 percent lies in the rest of the blocks.

Conclusion and suggestions: the above facts suggest that there was uneven adoption of tractors and cultivators over some time.

Birdpur has the highest growth in tractors while Dumariyaganj has the highest growth in advanced plow and cultivator.

Bhanwapur shows negative growth in tractors while Birdpur shows the lowest growth in advanced harrow and cultivator.

The above finding suggests that Siddharthanagar district still lags in modern farming machines in comparison with western Uttar Pradesh as well as Haryana and Punjab. so there is a need for enhanced and subsidized credit for modern agriculture equipment.

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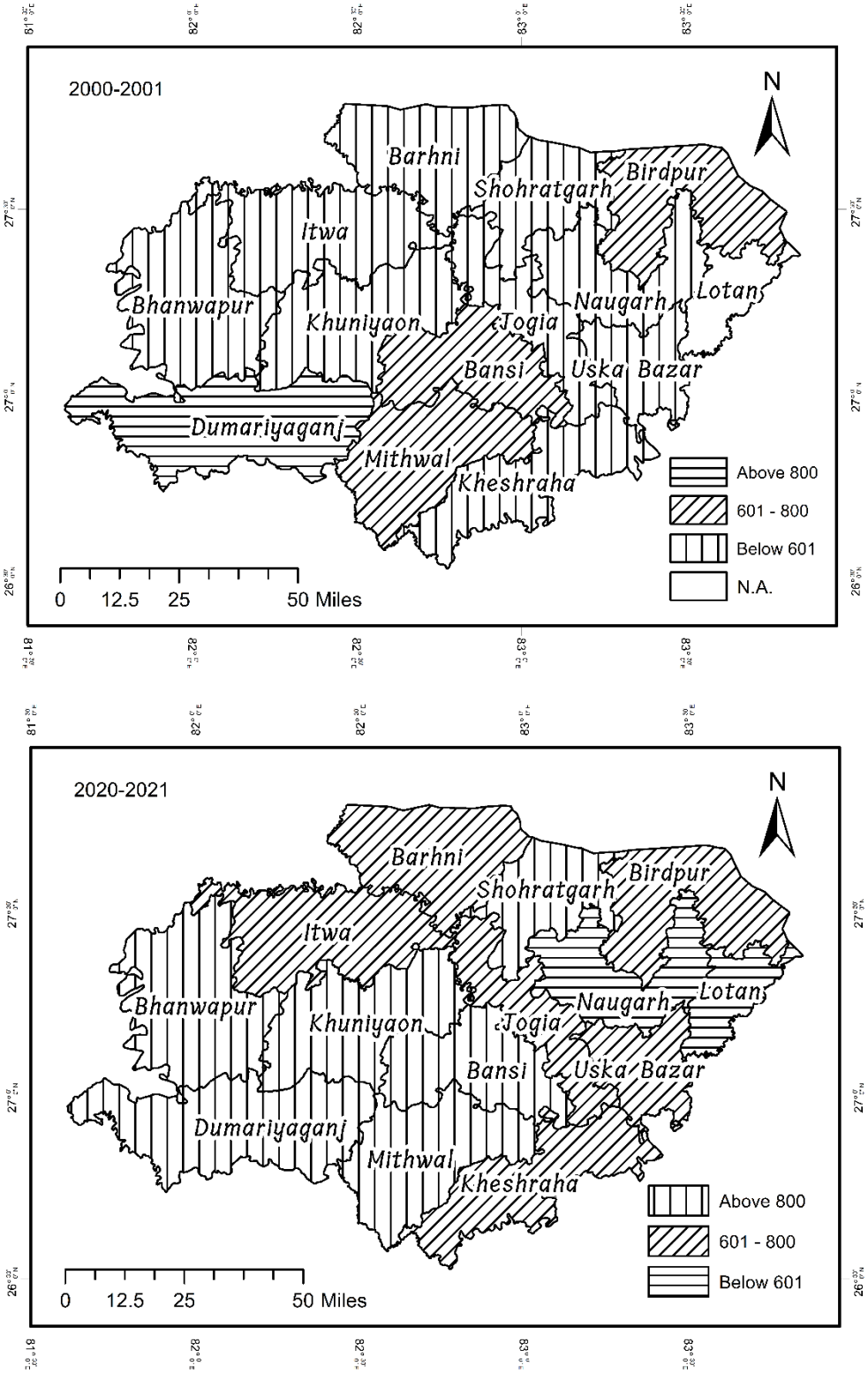
Siddharthnagar: Improved Harrow and Cultivator



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References:

Islam P.; 2011. Spatio-temporal Analysis of Agricultural Modernization and Regional Development in Hathras District of Uttar Pradesh. Ph.D. Thesis, AMU, Aligarh.

Senthilkumar, T., & Mehta, N.C.C.(2017). Trends of Tractorization in Indian Agriculture.

Directorate of Census Operations. (2011). Census of India 2011 Uttar Pradesh District Census Handbook Siddharthnagar. Ministry of Home Affairs.

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