



"Land Use Patterns in Varanasi District, A Comprehensive Analysis of Forests, Cultivable Useless Land, Fallen Land, Pasture Land, and Green Spaces"

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Abstract

Varanasi District in India displayed a diverse landscape with varying land uses across its development block. The district allocated specific areas for forest land, pasture, gardens, trees, shrubs, and land other than agriculture and cultivable useless land. These allocations reflect the district's commitment to environmental preservation, sustainable development, and resource optimization. The forest land area ranged from 9 to 17% in different block, with Badagaon leading in forest cover at 17%. This signifies the district's efforts to protect its natural beauty and ecological significance. Pasture lands covered about 8 to 10% in most block, showcasing the district's emphasis on supporting livestock and rural economies. Green spaces, represented by gardens, trees, and shrubs, were allocated in varying proportions, with Sewapuri designating 34% of its area. This demonstrates the district's commitment to fostering a healthy and harmonious urban environment. Land uses other than agriculture accounted for about 2 to 17% of different block, reflecting a well-rounded approach to urban and rural development. The district's attention to managing such lands highlights its vision for balanced growth. Cultivable useless land, ranging from 4 to 16% across, showcases the district's understanding of the diverse nature of its land and efforts to make the most of it for various beneficial purposes.

Keywords- Forest, Cultivable Land, Land Uses Other than Agriculture, Pasture land

Introduction

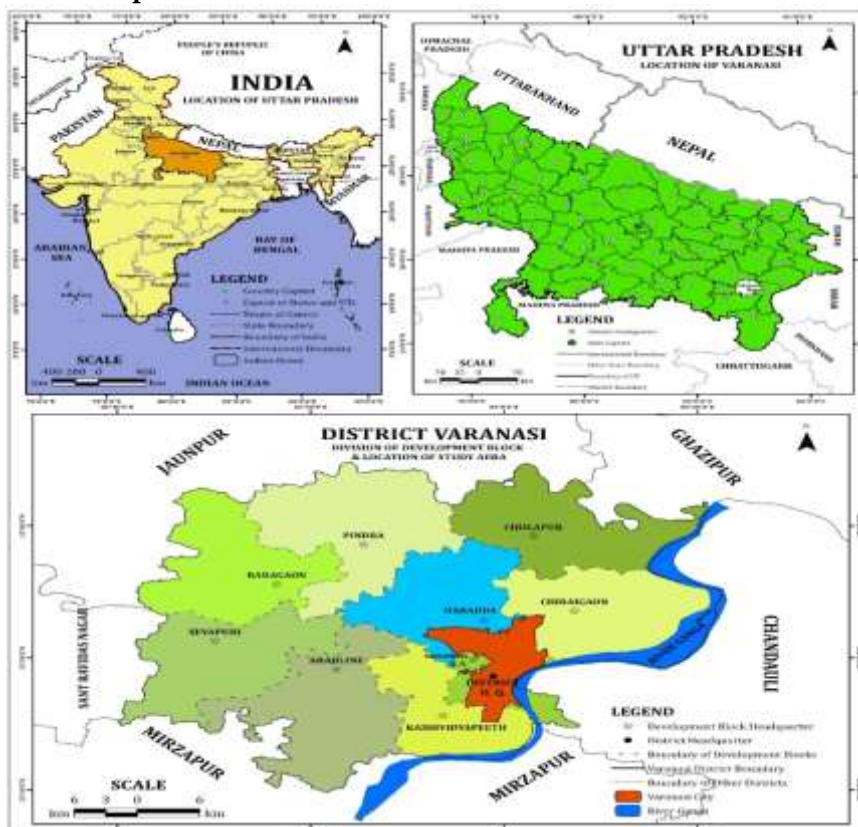
In 2022, the Varanasi District in India witnessed significant variations in land use across its various development block, each showcasing diverse percentages of different types of land. This included forest land, cultivable useless land, current fallen land, other fallen unusable land, land uses other than agriculture, pasture land, and green spaces like gardens, trees, and shrubs. These allocations reflect the district's multifaceted approach to land utilization, emphasizing environmental preservation, sustainable practices, and balanced development. In the Badagaon development block, 17% of the total area was dedicated to forest land, highlighting the region's commitment to preserving natural beauty and ecological significance. Additionally, 11% of the land was allocated as cultivable useless land, indicating efforts to utilize certain areas for non-agricultural purposes or

conservation efforts. Moreover, 12% of the land was classified as current fallen land, emphasizing the need for restoration and conservation to address the loss of natural vegetation. The Pindra block also exhibited a responsible approach to land management, with 11% of the area dedicated to forest land and 11% to cultivable useless land. Recognizing the impacts of deforestation or land unsuitability for agriculture, these allocations aimed to strike a balance between development and environmental conservation. Similarly, the Cholapur development block set aside 9% of its forested areas and 8% as cultivable useless land. This demonstrated a thoughtful approach to identifying and utilizing land that may have limitations for traditional farming but can be employed for other purposes beneficial to the community. In Chiraigaon, around 15% of the land was dedicated to forested areas, indicating the region's efforts to promote

sustainable practices and protect its ecological resources. An additional 9% was allocated as cultivable useless land, signifying a proactive approach to land utilization based on its specific characteristics. The Harhua development block, despite having a smaller proportion of forest land (7%), showcased its commitment to incorporating green spaces into its urban landscape. Moreover, 9% of the land was allocated as cultivable useless land, emphasizing the importance of thoughtful land management and environmental preservation.

The Sewapuri region allocated approximately 13% of its land as forested areas, focusing on fostering a healthy and harmonious environment. Additionally, 15% of the land was classified as cultivable useless, indicating a comprehensive understanding of land utilization and the need to optimize land use based on specific characteristics. In the Arazi Line development block, 9% was dedicated to forest land, while 10% was allocated as cultivable useless land, underscoring the region's dedication to preserving natural habitats amid developmental projects. As an educational institution, Kashi Vidyapeeth showcased a balanced approach with 15% of its land dedicated to forested areas, aligned

Map No. 1 Location Map of Varanasi



with its emphasis on preserving green spaces, sustainability, and the pursuit of knowledge. Moreover, 12% of the land was classified as cultivable useless, reflecting the district's recognition of diverse land characteristics and potential uses. In the urban areas, despite the challenges of urbanization, 4% of the land was designated as forested areas, indicating efforts to maintain greenery within city limits. The district demonstrated its commitment to sustainable urban planning and incorporating green spaces within urban settings.

Study Area

The study area is in Varanasi district, in the eastern part of Uttar Pradesh state, India. It spans between 25°10' N to 25°37' N latitude and 82°39' E to 83°10' E longitudes (Map No.1). The district covers an extensive area of 1454.11 sq. km, with its significant portion stretching towards the west and north of Varanasi city. The district of Varanasi is rich in cultural and historical significance, being one of India's oldest and holiest cities. It holds immense importance in Hindu mythology and is a significant pilgrimage site. The region's geographical location and administrative divisions make it an exciting and relevant area for various research and development studies.

Methodology

The present study is based on secondary sources of data, obtained from district statistical magazine 2022. Location map of the study area is based on Arc GIS application. Data analysis has been done using MS - Excel 2019. There are four objectives to analyze land use in the Varanasi district.

Objectives

1. Assess the distribution and extent of forested areas in different development blocks.
2. Analyze the allocation of cultivable and useless land.
3. Evaluate the presence and extent of gardens, trees, and shrubs in the district.
4. Examine the allocation and management of pasture lands.

Forest Land

Badagaon development block, approximately 9 hectares of land were covered with forests, making up about 17% of the total area in that region. This block has a substantial portion of its land dedicated to forests, contributing to its natural beauty and ecological significance. Moving on to the Pindra block, around 6 hectares were designated as forested areas, representing about 11% of that region's overall land use. This indicates that Pindra also values and preserves its natural surroundings to a notable extent. The Cholapur development block had 5 hectares of land under forest coverage, accounting for about 9% of its total area. Cholapur's commitment to maintaining green spaces highlights its dedication to environmental preservation. Chiraigaon,

another area within Varanasi District, devoted around 8 hectares of land to forests, constituting approximately 15% of its total land use. This demonstrates the block's efforts to promote sustainable practices and protect its ecological resources. The Harhua development block set aside 4 hectares for forests, making up about 7% of its total area. Even though it might be a smaller proportion, it signifies Harhua's commitment to incorporating green spaces into its urban landscape.

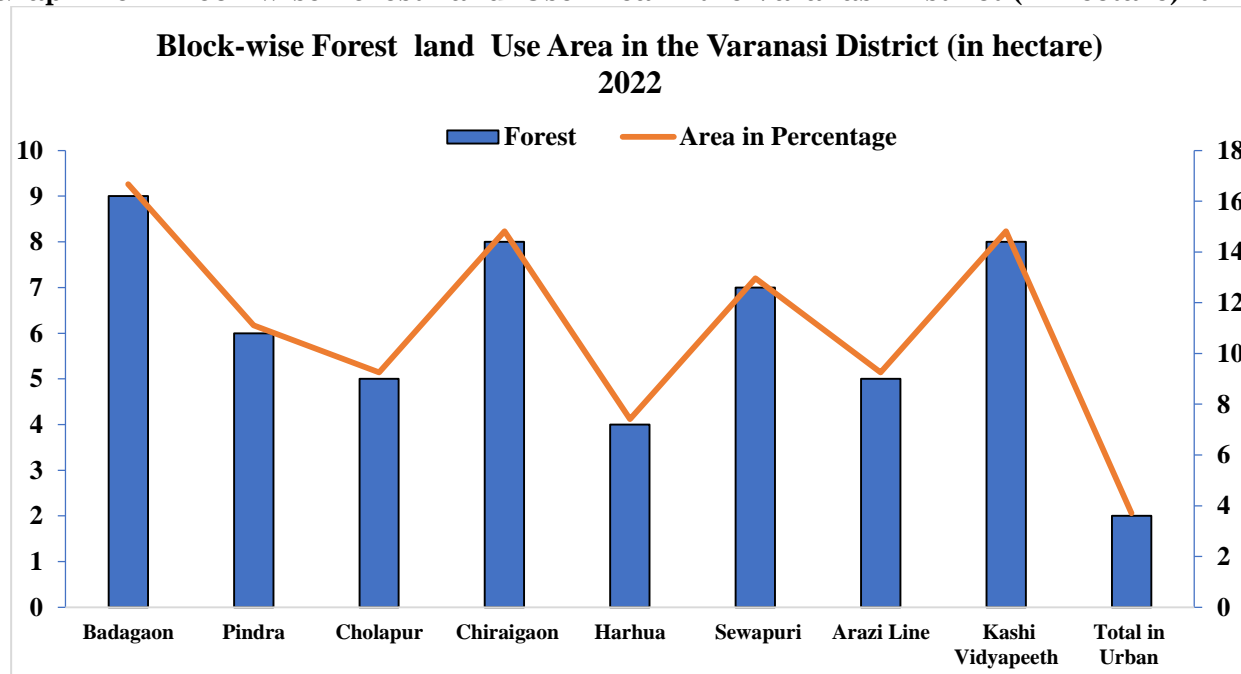
Moving ahead to the Sewapuri region, it allocated around 7 hectares as forested land, representing approximately 13% of its total area. Sewapuri's forest investment focuses on fostering a healthy and harmonious environment. The Arazi Line development block had 5 hectares of forest land, accounting for about 9% of its total area. This showcases Arazi Line's dedication to preserving natural habitats amid its developmental projects. The Kashi Vidyapeeth region dedicated around 8 hectares of land to forests, constituting approximately 15% of its land use. As an educational institution, Kashi Vidyapeeth's emphasis on preserving green spaces aligns with the pursuit of knowledge and sustainability. In the urban areas, 2 hectares were designated as forested land, making up about 4% of the overall urban area in the Varanasi District. This indicates that despite the challenges of urbanization, efforts are being made to maintain some greenery within city limits.

Table No-1 Block-wise Forest land Use Area in the Varanasi District (in hectare) 2022

Block-wise Forest land Use Area in the Varanasi District (in hectare) 2022		
Development Block	Forest	Area in Percentage
Badagaon	9	17
Pindra	6	11
Cholapur	5	9
Chiraigaon	8	15
Harhua	4	7
Sewapuri	7	13
Arazi Line	5	9
Kashi Vidyapeeth	8	15
Total in Urban	2	4
Total	54	100

Source-District Statistical Magazine 2022

Graph No-1 Block-wise Forest land Use Area in the Varanasi District (in hectare)2022



Cultivable Useless Land

Badagaon development block, approximately 233 hectares of land were classified as cultivable useless, making up about 9% of the total area in that region. This suggests that Badagaon has identified certain lands that might not be suitable for conventional cultivation but can be utilized for other purposes or conservation efforts. Pindra block, around 274 hectares were designated as cultivable useless land, representing about 11% of that region's overall land use. Pindra's decision to allocate such land highlights the need to manage and use areas that may need improvement for traditional farming practices. Cholapur development block had 195 hectares of cultivable useless land, accounting for about 8% of its total area. This indicates Cholapur's efforts to identify and utilize land that may have limitations for cultivation but can still be employed in various ways to benefit the community. Chiraigaon, another area within Varanasi District, allocated 552 hectares for cultivable useless purposes, constituting approximately 22% of its total land use. This suggests that Chiraigaon has recognized a significant portion of its land as unsuitable for agriculture and seeks alternative uses for sustainable land management. Harhua development block set aside 222 hectares of land as cultivable useless, making up about

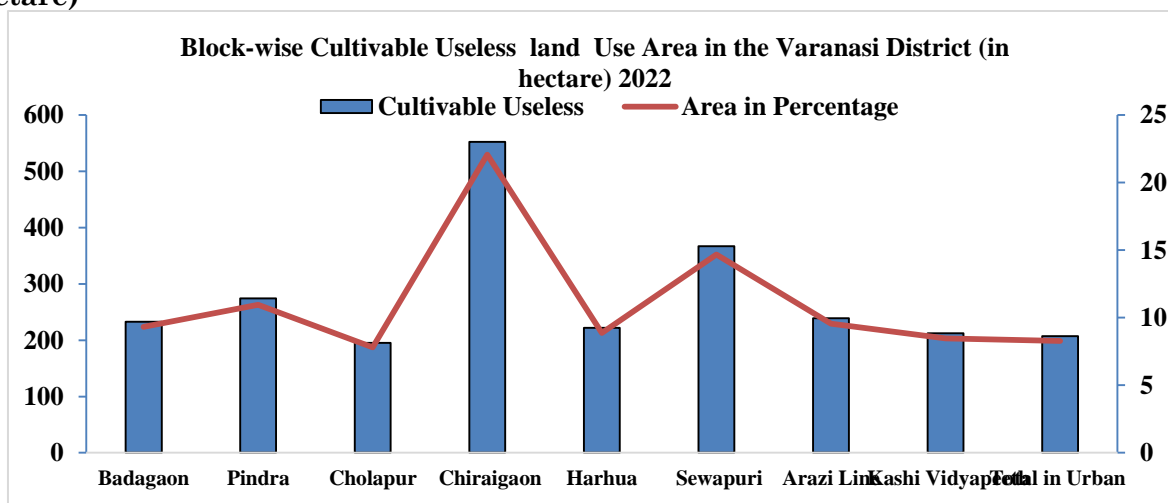
9% of its total area. Harhua's attention to such land indicates a thoughtful approach to land utilization and environmental preservation. Sewapuri region, it designated around 367 hectares as cultivable useless land, representing approximately 15% of its total area. Sewapuri's decision to allocate a considerable portion of land for such purposes demonstrates its commitment to optimizing land use based on its specific characteristics. Arazi Line development block had 239 hectares of land dedicated to cultivable useless purposes, accounting for about 10% of its total area. Arazi Line has identified areas that may not be suitable for agriculture but can still contribute to the region's overall sustainability. Kashi Vidyapeeth region devoted approximately 212 hectares of land to cultivable useless purposes, constituting about 8% of its land use. This indicates that Kashi Vidyapeeth has considered the diverse nature of its land and aims to make the most of it for various beneficial endeavours. In the urban areas, 207 hectares were designated as cultivable useless land, making up about 8% of the overall urban area in the Varanasi District. This signifies the district's efforts to optimize land usage even within urban settings, promoting sustainability and efficient urban planning.

Table No-2 Block-wise Cultivable Useless land Use Area in the Varanasi District (in hectare) 2022

Block-wise Cultivable Useless land Use Area in the Varanasi District (in hectare) 2022		
Development Block	Cultivable Useless	Area in Percentage
Badagaon	233	9
Pindra	274	11
Cholapur	195	8
Chiraigaon	552	22
Harhua	222	9
Sewapuri	367	15
Arazi Line	239	10
Kashi Vidyapeeth	212	8
Total in Urban	207	8
Total	2501	100

Source District Statistical Magazine 2022

Graph No-2 Block-wise Cultivable Useless land Use Area in the Varanasi District (in hectare)



Current Fallen Land

Badagaon development block, approximately 582 hectares of land were categorized as currently fallen, constituting about 12% of the total area in that region. This indicates that Badagaon has encountered the loss of natural vegetation in certain areas, prompting the need for conservation and reforestation efforts to restore the ecological balance. Pindra block, around 593 hectares of land were identified as falling, representing about 12% of the overall land use in that particular region. The recognition of such land underscores Pindra's awareness of environmental challenges and its dedication to mitigating the impacts of deforestation or natural disasters.

The Cholapur development block had 560 hectares of current fallen land,

accounting for about 12% of its total area. Cholapur's acknowledgement of sites with fallen vegetation highlights the importance of implementing measures to address the causes and consequences of this ecological phenomenon. Chiraigaon, another area within Varanasi District, designated approximately 494 hectares for current fallen land, constituting about 10% of its total land use. This suggests that Chiraigaon has experienced the loss of natural vegetation, and efforts are needed to rehabilitate these areas for the sake of biodiversity and sustainability. Harhua development block set aside 394 hectares of land as currently fallen, making up about 8% of its total area. Harhua's observation of lost land implies the need for reforestation initiatives and the restoration of natural habitats to foster a healthier environment. Sewapuri region, it

identified around 526 hectares as current fallen land, representing approximately 11% of its total area. Sewapuri's recognition of such land indicates a proactive approach to addressing environmental challenges and protecting the district's natural resources. Arazi Line development block had 528

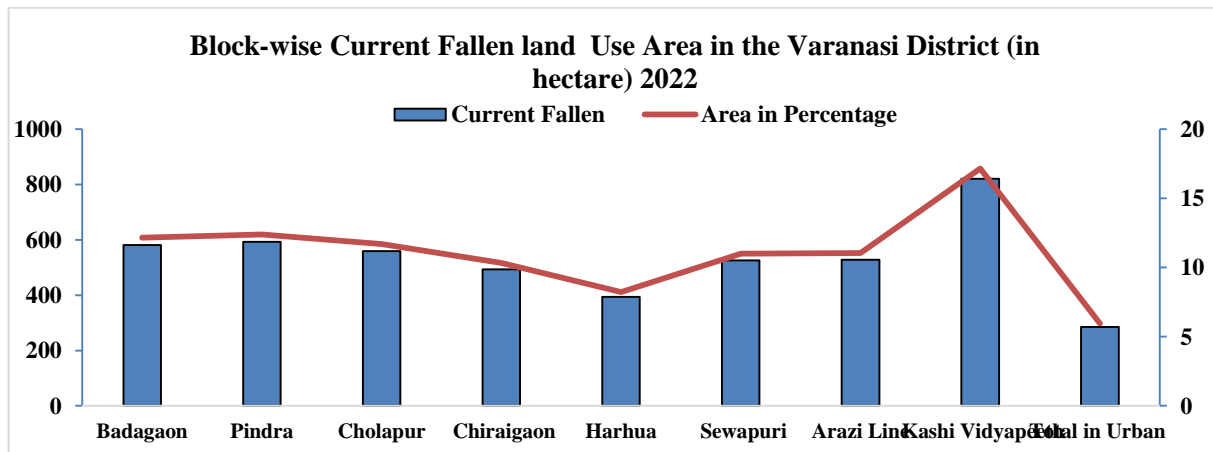
hectares of land dedicated to current fallen purposes, accounting for about 11% of its total area. This suggests that Arazi Line has witnessed a significant loss of natural vegetation, necessitating the implementation of conservation strategies to reverse this trend.

Table No-3 Block-wise Current Fallen land Use Area in the Varanasi District (in hectare)

Block-wise Current Fallen land Use Area in the Varanasi District (in hectare) 2022		
Development Block	Current Fallen	Area in Percentage
Badagaon	582	12
Pindra	593	12
Cholapur	560	12
Chiraigaon	494	10
Harhua	394	8
Sewapuri	526	11
Arazi Line	528	11
Kashi Vidyapeeth	821	17
Total in Urban	285	6
Total	4783	100

Source District Statistical Magazine 2022

Graph No-3 Block-wise Current Fallen land Use Area in the Varanasi District (in hectare)



Kashi Vidyapeeth region devoted approximately 821 hectares of land to the current fallen, constituting about 17% of its land use. This indicates that Kashi Vidyapeeth recognizes the magnitude of fallen land and is actively working towards ecological restoration and sustainable land management practices. In the urban areas, 285 hectares were designated as current fallen land, making up about 6% of the overall metropolitan area in the Varanasi District. Even within the urban landscape, the district is mindful of the impact of fallen

land and seeks to implement measures to improve the green spaces within the city.

Other Fallen Usar and Uncultivable Land

Badagaon has identified areas that have become unusable for cultivation, possibly due to factors like soil salinity or erosion, requiring alternative approaches for land utilization and conservation efforts. Moving on to the Pindra block, around 608 hectares were designated as Other Fallen Usar and Uncultivable Land, representing about 10% of that region's overall land use.

Pindra's recognition of such land indicates the need to find alternative services for areas that cannot support traditional agricultural activities. Cholapur development block had 471 hectares of Other Fallen Usar and Uncultivable Land, accounting for about 8% of its total area. Cholapur's identification of such land highlights the importance of sustainable land management practices and finding solutions for unproductive regions. Chiraigaon, another area within Varanasi District, allocated approximately 552 hectares for Other Fallen Usar and Uncultivable Land, constituting about 9% of its total land use. This suggests that Chiraigaon has recognized areas that have lost their agricultural potential, necessitating innovative land reclamation and conservation approaches. Harhua development block set aside 493 hectares of land as Other Fallen Usar and Uncultivable Land, making up about 8% of its total area. Harhua's acknowledgement of such land indicates a proactive approach to address land degradation and implement measures to restore or repurpose unusable areas.

Sewapuri region, it designated around 709 hectares as Other Fallen Usar and Uncultivable Land, representing

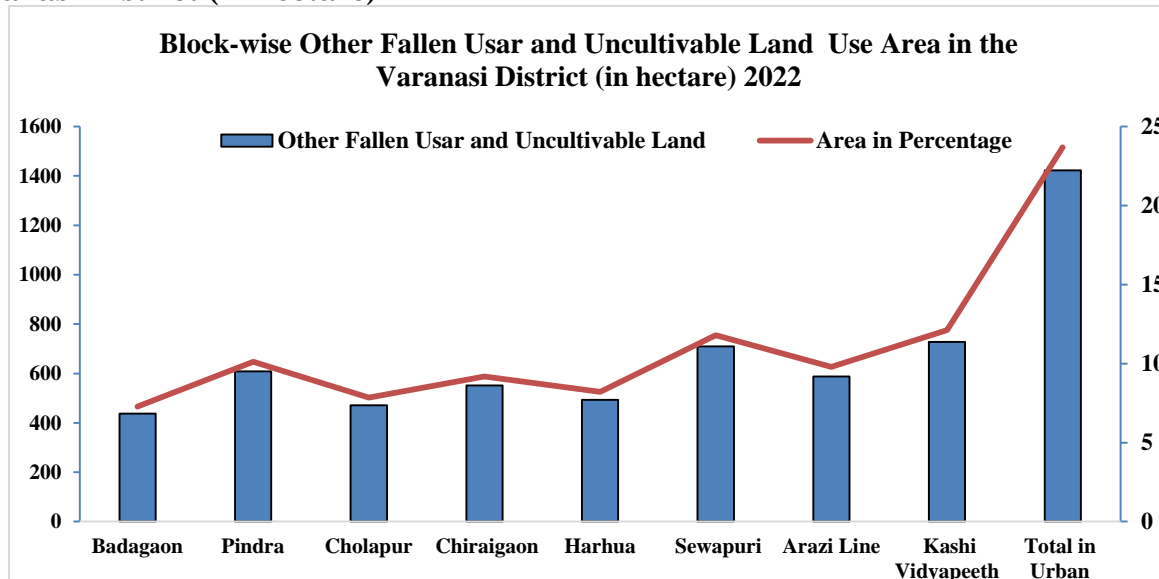
approximately 12% of its total area. Sewapuri's identification of such land signifies the need for comprehensive land use planning and strategies to rehabilitate degraded areas. Arazi Line development block had 588 hectares of land dedicated to Other Fallen Usar and Uncultivable Land, accounting for about 10% of its total area. This indicates that Arazi Line has encountered ground that has lost its productivity, warranting interventions to ensure sustainable land use practices. Kashi Vidyapeeth region devoted approximately 728 hectares of land to Other Fallen Usar and Uncultivable Land, constituting about 12% of its total land use. This suggests that Kashi Vidyapeeth has identified areas that cannot support cultivation or development, requiring careful management to preserve ecological balance. In the urban areas, 1423 hectares were designated as Other Fallen Usar and Uncultivable Land, making up about 24% of the overall metropolitan area in the Varanasi District. Even within urban settings, the district acknowledges the importance of managing and repurposing unusable land for sustainable urban development.

Table No-4 Block-wise Other Fallen Usar and Uncultivable Land Use Area in the Varanasi District (in hectare) 2022

Block-wise Other Fallen Usar and Uncultivable Land Use Area in the Varanasi District (in hectare) 2022		
Development Block	Other Fallen Usar and Uncultivable Land	Area in Percentage
Badagaon	437	7
Pindra	608	10
Cholapur	471	8
Chiraigaon	552	9
Harhua	493	8
Sewapuri	709	12
Arazi Line	588	10
Kashi Vidyapeeth	728	12
Total in Urban	1423	24
Total	6009	100

Source District Statistical Magazine 2022

Graph No-4 Block-wise Other Fallen Usar and Uncultivable Land Use Area in the Varanasi District (in hectare)



Land Uses Other than Agriculture

Badagaon development block, approximately 214 hectares of land were dedicated to uses other than agriculture, constituting about 11% of the total area in that region. This indicates that Badagaon has identified and designated specific lands for residential, commercial, or industrial development, allowing for a balanced and comprehensive land use plan. Pindra block, around 325 hectares were allocated for uses other than agriculture, representing about 17% of that region's overall land use. Pindra's diverse land use approach indicates incorporating various activities and development projects to support the district's growth and progress. Cholapur development block had 225 hectares of land dedicated to non-agricultural uses, accounting for about 12% of its total area. Cholapur's efforts to allocate land for non-agricultural purposes showcase a thoughtful approach to balancing regional development and conservation. Chiraigaon, another area within Varanasi District, set aside approximately 308 hectares for uses other than agriculture, constituting about 16% of its total land use. This suggests that Chiraigaon is actively pursuing various development projects while preserving the district's environmental and cultural heritage.

Harhua development block had 142 hectares of land designated for non-

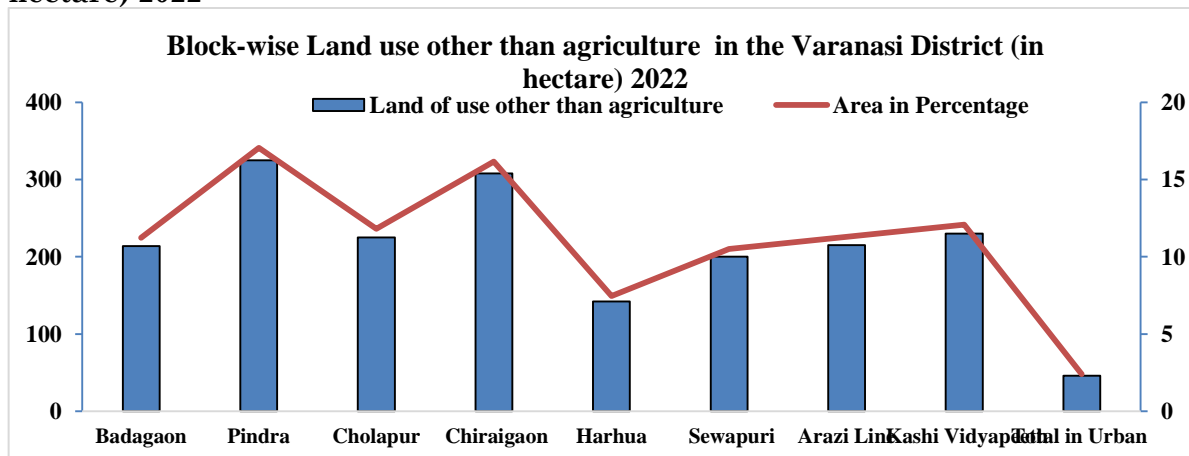
agricultural uses, making up about 7% of its total area. Harhua's selective land allocation signifies a conscious effort to balance development and preserve natural resources. Sewapuri region, it allocated around 200 hectares for uses other than agriculture, representing approximately 10% of its total area. Sewapuri's focus on non-agricultural land uses demonstrates a commitment to sustainable development and intelligent land use planning. Arazi Line development block had 215 hectares of land devoted to non-agricultural purposes, accounting for about 11% of its total area. This suggests that Arazi Line is actively diversifying its land use to accommodate various community needs and foster economic growth. Kashi Vidyapeeth region dedicated approximately 230 hectares of land to uses other than agriculture, constituting about 12% of its total land use. This indicates that Kashi Vidyapeeth contributes to the district's overall development and progress by allocating land for various non-agricultural purposes. In the urban areas, 46 hectares were designated for uses other than agriculture, making up about 2% of the overall metropolitan area in the Varanasi District. This highlights the district's focus on strategic urban planning to create vibrant urban spaces that cater to residential, commercial, and recreational needs.

Table No-5 Block-wise Land use other than agriculture in the Varanasi District (in hectare) 2022

Block-wise Land use other than agriculture in the Varanasi District (in hectare) 2022		
Development Block	Land of use other than agriculture	Area in Percentage
Badagaon	214	11
Pindra	325	17
Cholapur	225	12
Chiraigaon	308	16
Harhua	142	7
Sewapuri	200	10
Arazi Line	215	11
Kashi Vidyapeeth	230	12
Total in Urban	46	2
Total	1905	100

Source District Statistical Magazine 2022

Graph No-5 Block-wise Land use other than agriculture in the Varanasi District (in hectare) 2022



Pasture land

Badagaon development block, approximately 3262 hectares of land were dedicated as pasture, constituting about 10% of the total area in that region. This signifies Badagaon's commitment to providing ample grazing grounds for livestock, ensuring the well-being of animals and supporting the livelihoods of local communities dependent on agriculture and animal husbandry. Moving on to the Pindra block, around 3165 hectares were allocated for pasture, representing about 10% of that region's overall land use. Pindra's recognition of the importance of pasture land highlights its efforts to promote sustainable agricultural practices and maintain a healthy ecosystem for both flora and fauna. Cholapur development block had 2995 hectares of land dedicated to pasture, accounting for about 9% of its total area. Cholapur's focus on

preserving pasture lands demonstrates its understanding of the ecological value of these areas and their contribution to the overall environmental balance. Chiraigaon, another area within Varanasi District, set aside approximately 3899 hectares for pasture, constituting about 12% of its total land use. This suggests that Chiraigaon values the significance of pasture lands in supporting local agriculture and fostering a sustainable rural economy. Harhua development block had 2815 hectares of land designated for pasture, making up about 8% of its total area. Harhua's attention to providing ample grazing spaces showcases its dedication to promoting animal husbandry and sustainable agricultural practices.

Sewapuri region, it allocated around 3303 hectares for pasture, representing approximately 10% of its total area. Sewapuri's commitment to maintaining

pasture lands underscores its efforts to preserve natural habitats and protect the district's biodiversity. Arazi Line development block had 3327 hectares of land devoted to pasture, accounting for about 10% of its total area. This indicates that Arazi Line recognizes the essential role of pasture lands in supporting rural livelihoods and ensures their preservation for future generations. Kashi Vidyapeeth region dedicated approximately 5739 hectares of land to pasture, constituting about 17% of its total

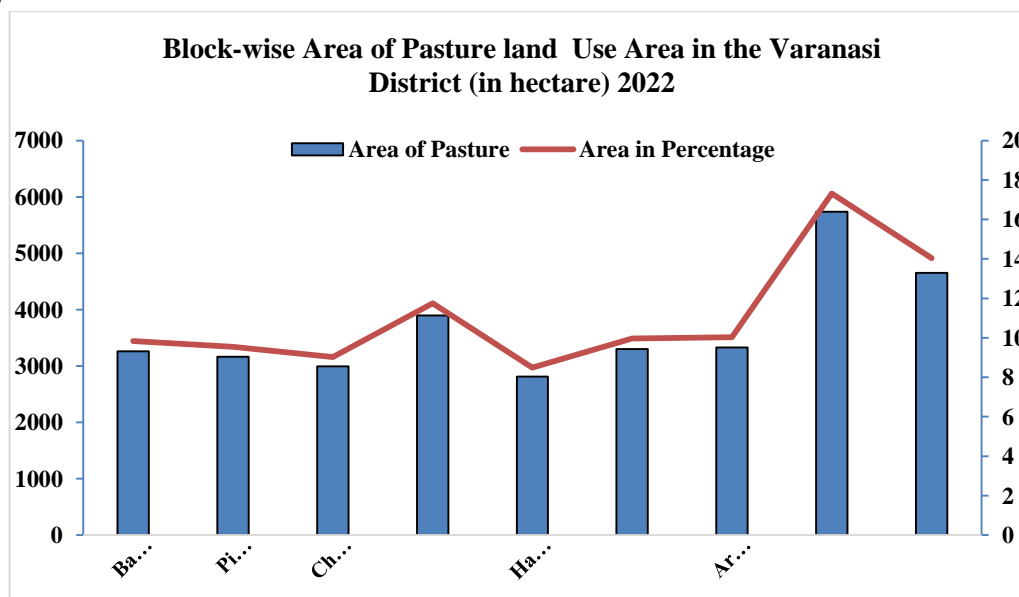
land use. This highlights Kashi Vidyapeeth's understanding of the importance of pasture lands in the agricultural landscape and their role in sustaining rural communities. In the urban areas, 4654 hectares were designated for pasture, making up about 14% of the overall metropolitan area in the Varanasi District. Even within urban settings, the district is mindful of preserving green spaces for grazing, contributing to the well-being of both urban and rural populations.

Table No-6 Block-wise Area of Pasture land Use Area in the Varanasi District (in hectare) 2022

Block-wise Area of Pasture land Use Area in the Varanasi District (in hectare) 2022		
Development Block	Area of Pasture	Area in Percentage
Badagaon	3262	10
Pindra	3165	10
Cholapur	2995	9
Chiraigaon	3899	12
Harhua	2815	8
Sewapuri	3303	10
Arazi Line	3327	10
Kashi Vidyapeeth	5739	17
Total in Urban	4654	14
Total	33159	100

Source-District Statistical Magazine 2022

Graph No-6 Block-wise Area of Pasture land Use Area in the Varanasi District (in hectare)



Gardens, Trees, and Shrubs

Badagaon development block, approximately 2 hectares of land were designated as Gardens, Trees, and Shrubs, constituting about 12% of the total area in that region. This indicates Badagaon's dedication to creating green spaces and maintaining gardens, enhancing the overall landscape and contributing to the resident's well-being. Pindra block, no reported hectares were allocated to Gardens, Trees, and Shrubs, representing 0% of that region's overall land use. Although no specific allocations might exist for such green spaces in Pindra, existing natural areas and public parks may contribute to the region's environmental aesthetics. Cholapur development block had 2 hectares of land dedicated to Gardens, Trees, and Shrubs, accounting for about 12% of its total area. Cholapur's efforts to create green spaces demonstrate a commitment to preserving natural beauty and providing recreational areas for the community. Chiraigaon, another area within Varanasi District, set aside approximately 2 hectares for Gardens, Trees, and Shrubs, constituting about 12% of its total land use. This suggests that Chiraigaon values green spaces to create a

harmonious environment that promotes physical and mental well-being.

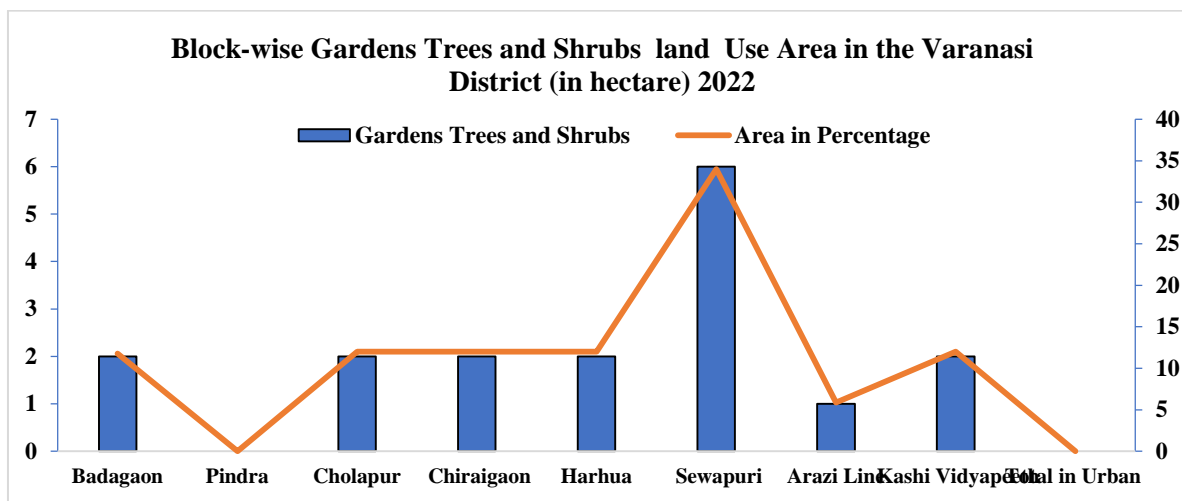
Harhua development block had 2 hectares designated for Gardens, Trees, and Shrubs, making up about 12% of its total area. Harhua's focus on maintaining gardens and green spaces signifies its commitment to environmental sustainability and creating a pleasant living environment for its residents. Sewapuri region, it allocated around 6 hectares for Gardens, Trees, and Shrubs, representing approximately 34% of its total area. Sewapuri's substantial allocation to green spaces indicates its dedication to creating a greener and more environmentally friendly urban landscape. Arazi Line development block had 1 hectare of land devoted to Gardens, Trees, and Shrubs, accounting for about 6% of its total area. This indicates that Arazi Line recognizes the importance of green spaces in urban planning and is actively creating sites for recreational and environmental benefits. Kashi Vidyapeeth region dedicated approximately 2 hectares of land to Gardens, Trees, and Shrubs, constituting about 12% of its total land use. This highlights Kashi Vidyapeeth's focus on providing green spaces for its educational campus, enhancing the overall ambience for students and faculty.

Table No-7 Block-wise Gardens Trees and Shrubs land Use Area in the Varanasi District (in hectare)

Block-wise Gardens Trees and Shrubs land Use Area in the Varanasi District (hectare) 2022		
Development Block	Gardens Trees and Shrubs	Area in Percentage
Badagaon	2	12
Pindra	0	0
Cholapur	2	12
Chiraigaon	2	12
Harhua	2	12
Sewapuri	6	34
Arazi Line	1	6
Kashi Vidyapeeth	2	12
Total in Urban	0	0
Total	17	100

Source District Statistical Magazine 2022

Graph No-7 Block-wise Gardens Trees and Shrubs land Use Area in the Varanasi District (in hectare)



In the urban areas, no reported hectares were allocated to Gardens, Trees, and Shrubs, representing 0% of the overall metropolitan area in Varanasi District. While there might not be specific allocations, the district could have existing parks and green spaces contributing to the urban environment.

Cultivable Useless Land

Badagaon development block, approximately 276 hectares of land were classified as cultivable useless, constituting about 11% of the total area in that region. This suggests that Badagaon has identified certain lands that may have limitations for agricultural activities but can be used for other purposes or conservation efforts. Moving on to the Pindra block, around 286 hectares were designated as cultivable useless land, representing about 11% of that region's overall land use. Pindra's decision to allocate such land indicates a thoughtful approach to land utilisation and recognising areas needing improvement for conventional farming. Cholapur development block had 277 hectares of cultivable useless land, accounting for about 11% of its total area. This indicates Cholapur's efforts to identify and utilise land that may have limitations for cultivation but can still be employed in various ways to benefit the community and the environment. Chiraigaon, another area within Varanasi District, set aside approximately 236 hectares for cultivable useless purposes, constituting about 9% of its total land use. This suggests that Chiraigaon has identified lands that may not be suitable for traditional farming, emphasising the

importance of finding alternative services for such areas. Harhua development block had 253 hectares of land allocated as cultivable useless, making up about 10% of its total area. Harhua's recognition of such land indicates a thoughtful approach to land management, considering areas that may not be productive for agriculture but can still contribute to the district's overall sustainability.

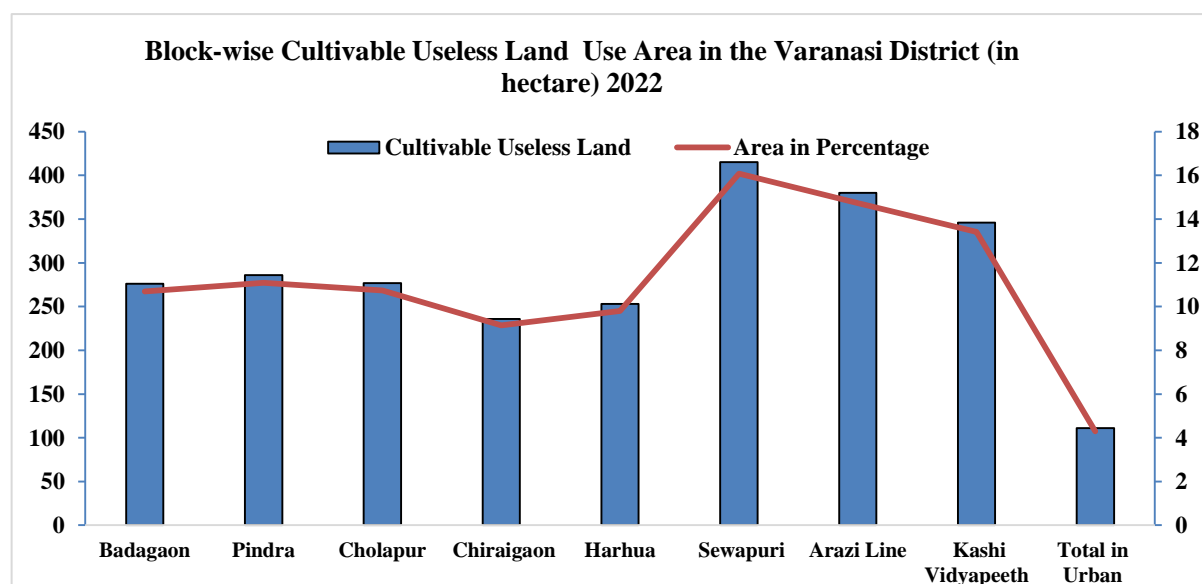
Sewapuri region, it designated around 415 hectares as cultivable useless land, representing approximately 16% of its total area. Sewapuri's focus on such ground indicates its commitment to optimising land use and finding suitable purposes for areas with limitations for conventional farming. Arazi Line development block had 380 hectares of land devoted to cultivable useless purposes, accounting for about 15% of its total area. This highlights Arazi Line's efforts to identify lands that may not be suitable for traditional agriculture but can be utilised for other productive or conservation purposes. Kashi Vidyapeeth region dedicated approximately 346 hectares of land to cultivable useless purposes, constituting about 13% of its land use. This suggests that Kashi Vidyapeeth has considered the diverse nature of its land and aims to make the most of it for various beneficial `endeavours. In the urban areas, 111 hectares were designated as cultivable useless land, making up about 4% of the overall metropolitan area in the Varanasi District. This indicates that even within urban settings, the district is mindful of land utilisation and seeks to optimise land use based on its specific characteristics

Table N0-8 Block-wise Cultivable Useless Land Use Area in the Varanasi District (in hectare) 2022

Block-wise Cultivable Useless Land Use Area in the Varanasi District (in hectare) 2022		
Development Block	Cultivable Useless Land	Area in Percentage
Badagaon	276	11
Pindra	286	11
Cholapur	277	11
Chiraigaon	236	9
Harhua	253	10
Sewapuri	415	16
Arazi Line	380	15
Kashi Vidyapeeth	346	13
Total in Urban	111	4
Total	2580	100

Source-District Statistical Magazine 2022

Graph No-8 Block-wise Cultivable Useless Land Use Area in the Varanasi District (in hectare) 2022



Findings:

1. Forest Land: The Varanasi District showed a commendable commitment to preserving forested areas, with approximately 54 hectares of land covered in forests. This highlights the district's dedication to ecological conservation and its recognition of the importance of green spaces for the environment and local communities.
2. Cultivable Useless Land: The district allocated around 2501 hectares of land for cultivable useless purposes, showcasing an understanding of the diverse nature of the land and the need to identify alternative uses for areas unsuitable for conventional farming.
3. Current Fallen Land: Varanasi District witnessed approximately 4783 hectares of currently fallen land, signifying the impact of deforestation or natural disasters. Recognizing this issue emphasizes the district's need to implement reforestation and rehabilitation strategies.
4. Other Fallen Usar and Uncultivable Land: The district identified around 6009 hectares of unusable land for agricultural

purposes, recognizing the challenges posed by such areas and the need for sustainable land management practices.

5. Land Uses Other Than Agriculture: Varanasi District allocated approximately 1905 hectares for non-agricultural purposes, promoting a balanced and comprehensive land utilization plan that supports various development projects.
6. Pasture Land: The district dedicated approximately 33,159 hectares as pasture, showcasing its commitment to livestock welfare and supporting rural livelihoods.
7. Gardens, Trees, and Shrubs: Varanasi District allocated about 17 hectares for parks and green spaces, contributing to a healthier and more sustainable urban environment.

Suggestions:

1. Reforestation Efforts: Given the significant area of currently fallen land and the importance of preserving forests, the district should prioritize reforestation and afforestation initiatives to restore the ecological balance and protect the natural environment.
2. Sustainable Land Management: Encourage adopting sustainable land management practices, especially in areas with unusable or fallow land, to promote soil health, reduce land degradation, and improve agricultural productivity.
3. Green Spaces in Urban Areas: Continue efforts to create and maintain green spaces, gardens, and parks within urban areas. These spaces provide recreational areas, improve air quality, and enhance the overall well-being of urban residents.
4. Livestock Management: Ensure proper management and utilization of pasture lands to support livestock needs and promote sustainable animal husbandry practices.
5. Integrated Land Use Planning: Promote integrated land use planning that considers land management's ecological, economic, and social aspects to ensure a balanced and sustainable approach to development.
6. Community Involvement: Involve local communities in decision-making regarding land use and conservation efforts. Community participation can enhance the success and effectiveness of various land management initiatives.

7. Environmental Education: Implement educational programs that raise awareness about the importance of ecological conservation and sustainable land use practices. Education can foster a sense of responsibility among residents and encourage active participation in preserving the district's natural resources.

By implementing these suggestions, the Varanasi District can continue to be a model for sustainable land management, environmental conservation, and balanced development, ensuring a prosperous and harmonious future for its residents and the natural ecosystem.

Conclusion

In conclusion, the Varanasi district displayed diverse land use patterns in 2022, showcasing its efforts to balance development, sustainability, and environmental conservation. The district recognized the importance of preserving forest land and allocated specific areas for forests in various development block. Additionally, there were extensive areas dedicated to cultivable useless land, where the district identified lands that may not be suitable for conventional agriculture but could be utilized for other purposes or conservation efforts. The study area also showcased its commitment to environmental aesthetics by allocating land for gardens, trees, and shrubs, contributing to a healthier and more sustainable urban environment. Pasture lands were also prominently featured, reflecting the district's emphasis on supporting livestock and sustainable agricultural practices.

Furthermore, the Varanasi District recognized the significance of managing and repurposing unusable land, allocating areas for other fallen usar and uncultivable land. This demonstrated the district's focus on sustainable land management practices and finding alternative uses for unproductive regions. Lastly, the district allocated specific lands for non-agricultural purposes, highlighting its multifaceted approach to land utilization and promoting a balanced and comprehensive land use plan that supports various development projects. Overall, the district's approach to land use planning in 2022 emphasizes the importance of environmental preservation, sustainable development, and a harmonious balance between rural and urban landscapes. These

efforts contribute to the well-being of the residents and promote a greener and more sustainable future for the Varanasi District.

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