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Assessing the Impact of City Development on the Sustenance of Weaver Community in Nagpur, Maharashtra – Findings from a Pilot Study

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Abstract

City growth influences people's lives continuously. Artists like textile weavers are affected by urban and semi-urban development strategies, like other city stakeholders. Nagpur, Maharashtra, a famous central Indian city, was chosen for this pilot project. Handloom and related activities have been in this city for over 300 years. The city's strategic position and abundance of cotton and kosa silk made textile production a popular occupation. This pilot project examines how city development affects Nagpur's handloom weavers and affiliated workers. This study used secondary data from academic publications, policy guidelines, and maps. Secondary data analysis revealed weavers' development variables. The weavers of selected sites were surveyed to acquire primary data on socio-economic, city development, and technology via snowball sampling. The identified parameters' impact on community sustenance was measured using Kendell's Tau-b correlation in SPSS. To understand the built environment and its impact on craftsmen' sustainable growth, Mominpura and Itwari were documented. Technology, socio-economy, and city growth sustain these weavers' communities, according to this data. The documentation also emphasised the weavers' working and living conditions and the locality's potential for their sustainable development. Thus, weavers' space needs must be addressed in specialist development to maintain their cohesive structure and sustainability. This study will help policymakers and planners evaluate weavers' social dependency and built needs for health. This pilot study supports SDG 11 of sustainable city growth by analysing community needs for survival in today's changing city development situation.

Keywords: Economy, Socio-Cultural Aspect, Sustainable Development, Technology, Weavers.

Introduction

In this era of rapid expansion, our cities are also expanding swiftly in all facets. Our cities are also experiencing rapid development because of the population increase over the past two decades. 55% of the global population resides in urban areas, according to the World Urban Prospects of the United Nations (2018) and by 2050; this figure will increase to approximately 68% (1). As India is currently experiencing accelerated urbanization, approximately 40% of its population will be residing in urban areas by 2036. These metropolitan areas are responsible for 70% of the GDP (2). Consequently, over the past two decades, there have been efforts to enhance urban infrastructure and services to improve economic, environmental, and social conditions. This will enhance the competitiveness and appeal of cities, a strategy that has been implemented by metropolitan areas worldwide (3). The urban components, including economic, social, and political factors, interrelate to influence the city. The urban form is essential for human habitation, culture, and society, as it primarily derives from the urban experience. The creation and reproduction of economic and social disparities and structures are fundamental for the spatial organization of urban settings. Consequently, the characterization of urban forms must encompass not only their tangible and physical structures but also the complex interplay of social, economic, legal, and political organizational modalities. The establishment of an interactive environment results from the social and economic activities within the communities that emerge from individuals coexisting within a society (4, 5). The communities like weavers have existed in the cities for ages, as clothing is the primary need of humans, and shaping our urban fabric with their sustainable approach towards co-existing with the surroundings (5). In India,

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every other city has its own weaver community, which is contributing towards the city's socio-economic and cultural growth. The weaving industry is India's traditional sector and the largest cottage and labour-intensive business, significantly contributing to the nation's economy while embodying its rich legacy and highlighting the artistry of the weavers. The handloom sector is second to agriculture in employment within the economic landscape (4, 6).

Thus, this pilot study focuses on the effect of socio-economy, city development, and technology on the sustainable sustenance of the weavers' community. For this pilot study, the Nagpur city of Maharashtra state has been selected as it has a significant history of weaving community and is famous for its different styles and types of weaving called Karvati Weave and allied activities. Mominpura area is where all activities related with the weaving take place. Whereas Itwari is the old market place 200 mts from the community residing in the Mominpura. In this area, broadly two communities are involved in the weaving and allied activities, which are Muslim community, known as Momin and the Hindu community, known as Koshti. As these communities are residing in this area for generations, they have developed their own socio-cultural behaviour and their own socio-economic systems and ties. Hence, when city development happens, it hampers these age-old setups and their interaction with the surroundings. As this area is famous for the weaving and allied activities related to textile, there are combinations of spaces and built environment is created by incorporating commercial activities. Hence, lots of houses have commercial activities at the ground floor and residential activities on upper floors. As an old area of the city, this area is very congested because of narrow lanes and vehicular traffic. Along with it, the city development projects like the metro line and the bridge also add to the loss of land.

The objective of this pilot study is to explore the effect of the city development, socio-economy, and technology on the sustenance of the weavers and people involved in allied activities of this locality of Nagpur city.

Sustainable City Development

Researchers assert that cities are constituted through the interplay of economic, social, physical, and political urban variables. Urban forms emerge from urban experiences and interactions, which are essential to human settlements, culture, and society. Consequently, urban areas are essential for the creation and perpetuation of social and economic structures and disparities. Consequently, it has been noted that urban form necessitates a profound comprehension of the complex interplay of economic, social, legal, and political interactions and organizations; nonetheless, it remains insufficient without physical and palpable structures (4, 5). In ancient cities, the evolution of space over time occurs as numerous users engage with that specific place throughout the years. The urban setting evolves more rapidly than the urban form; therefore, all urban vocations are transient. Urban design is typically regarded as expressive, as urban areas are shaped not only by their physical form but also by personal and impersonal processes related to environmental, political, legal, and socio-economic factors (3). When individuals congregate and establish a residence, an interactive environment emerges through their social and economic activities. Typically, these represent the organic patterns illustrated in the configuration of urban areas pertinent to human habitation, which are socially and economically orchestrated to create the complicated urban fabric through a multifaceted process (4, 7).

Historically, old cities exhibit a diverse amalgamation of economic and social statuses within their neighbourhoods. These communities fulfil their cultural requirements by preserving their social hierarchy. Thus, a repeated and continuous fabric is created that is uniform and unified by these various groups. Effective management of the region's creative and evolving economy is essential to preserve its unique intangible legacy (4). The cities typically possess distinct social hierarchies that must be upheld to meet their own cultural requirements. They possess diverse cultural and heritage roots, characterized by a heterogeneous amalgamation of populations regarding economic and social standing. Nonetheless, these varied communities exhibit homogeneity and cohesion through architectural characteristics such as planning principles, climate-responsive design, and the utilization of locally sourced materials, resulting

from a repeated and continuous fabric. These ancient villages exemplify a comprehensive planning philosophy that is both intuitive and healthful. These civilizations are more inclusive, durable, and intelligent due to their adherence to spiritual principles and social belief systems (5).

Urban development is an ongoing process executed by the government through various programs. The Smart City Mission is a city development initiative focused on the intelligent and sustainable advancement of 100 communities, serving as models for future urban development (4, 8, 9). The Smart City Mission India aims to foster cities that implement intelligent solutions, ensure a clean and sustainable environment for their residents, offer essential infrastructure, and deliver a satisfactory quality of life. In the past study, researchers asserted that India's smart city program aims to enhance the quality of life and urban infrastructure for the nation's urban populace (10). The smart city necessitates a smart economy, intelligent populace, efficient organization, effective communication, advanced engineering, innovative transit, sustainable environment, and high-quality living circumstances. Due to mass migration, fundamental issues such as overcrowding and water shortages persist; therefore, monitoring the rate of urban development is essential. The Indian government implemented many programs to transform 100 cities as Smart Cities. The government actively employs the PPP model and promotes FDI for the efficient execution of the Smart Cities Project in India. The primary problem facing the Government is not just the establishment of physical infrastructure such as roads, clean water, power, and transportation—but also ensuring inclusive development for all inhabitants, irrespective of their socioeconomic status. The concept of optimizing urban environments for the populace can be realized through the establishment of self-sustaining communities that generate employment, utilize resources efficiently, and provide training opportunities. India must now make a crucial policy decision on the development of smart cities, either by constructing new urban areas or enhancing existing ones (10).

Effect of Urban Development on Artisans

Cultural heritage significantly influences community formation. A shifting paradigm aims to preserve intangible elements of cultural heritage, such as traditional craft expertise, which, if lost, may be nearly impossible to recover. Consequently, crafts serve as a cultural manifestation for the communities that uphold, engage in, and advance them, playing a vital role in fostering identity, bolstering tourism, enhancing rural and urban economies, and promoting the overall wellbeing of society (4, 11). Arts and culture as fundamental creative industries, along with the considerable impact of artists in nurturing the community's identity, creativity, cohesion, and vibrancy of a location or city have pivotal significance (12).

In the contemporary context of globalization, with the decline of the manufacturing sector, advanced capitalist nations have transitioned into the realm of new knowledge and informational economies. Creativity serves as a fundamental catalyst in the emerging knowledge economy, particularly in the realms of artistic and technological innovation. Numerous cities and governments worldwide are currently advocating and formulating strategies to invigorate their communities by fostering creativity in the arts and culture, while also revitalizing their economies through the promotion of innovation across multiple sectors (13). Consequently, creativity is positioned as the focal point of urban development policy. The creative and cultural industries are essential to the economic development of metropolitan and regional areas due to the rise of knowledge cities (12). In Indian history, craftsmanship and commerce were concentrated within urban bounds and significantly contributed to the existence of cities. Some communities continue to be recognized for their expertise in a specific craft. This craft generates bazaars, which remain the lifeblood of every city, regardless of size (11). The survival of a craft, like any creativity, depends on necessity. A multitude of items flourish due to their appeal within the local culture and among tourists. Conversely, several products have experienced a decline in demand due to the mechanization and mass production of traditional manufacturing processes. The advent of computer-aided designs and a prohibition on

certain unique materials have significantly altered the process of traditional crafting (6, 11). Current urban conservation efforts in India prioritize less on preserving traditional skills, which often underpin the survival of rural populations. The Ancient Monuments and Archaeological Sites and Remains Act of 1958 and 2010 is focused on physical monuments and fails to incorporate intangible elements and the communal aspect of historic sites. In the majority of urban Master Plans, craftsmanship is not included among the categories of commercial activities. While there is reference to insufficient emphasis on the preservation and restoration of heritage structures, there is no reference to intangible heritage or any policies or strategies pertaining to it. The craft-based community's migration from the urban center to the city's periphery disrupts the original fabric and identity of the metropolis (4, 11).

Socio-Economic Development of Artisans in Today's City

India possesses a distinguished heritage of artisanal craftsmanship and is renowned for its art and workmanship. According to some researchers, over 4.1 million individuals are involved in artisanal activity in India, and the volume of art items exported to other countries is also significantly high. Thus, it is recognized that the artisan community has generated a significant share of employment and contributions to national income. It has also been noted that these artifacts are in high demand in foreign nations, generating a significant quantity of foreign currency (14). Art and craft serve as a crucial instrument for the economic advancement of local communities and represent a significant component of sustainable development planning. In the art-centric community, economic development occurs through the practice of art, regarded as an intrinsic asset of the community, where individuals possess the ability to establish groups and institutions (14). Despite possessing the requisite skill sets, it has been observed that many artisans have been migrating to surrounding cities or different states within the country. The primary reason for this movement is the lack of attention to community and spatial planning in the proposed development. A primary factor for the relocation of craftsmen is the lack of an affordable tool capable of generating necessary cash at the community level. Therefore, direction for the primary economic planning process is essential to facilitate local community development by connecting existing skills and resources to revenue-generating activities (14). Despite the government's concerted efforts to safeguard and advance the handloom industries through various schemes and initiatives aimed at enhancing the welfare of artisans, these programs remain largely unknown to the artisans themselves, resulting in their inability to benefit from such governmental endeavours, thereby adversely impacting their livelihoods and prospects for further development (14). In certain instances, such as the handloom, it embodies not only an industry but also the cultural diversity and richness of India. According to the Handloom Export Promotion Council (HEPC) of India, in the fiscal year 2020-21, India exported handloom products valued at INR 223 crore (USD 2.58 crore) (15). Consequently, this specific business possesses significant potential and provides substantial impetus to the Indian economy.

According to previous studies, despite the availability of enhanced chances and governmental assistance for the advancement of this sector, craftsmen either relocated from urban areas or transitioned to different vocations (16). The government initiatives, such as Make in India and the NitiAyog’s efforts, prioritize this industry to restore its former prominence and identity (16).

Methodology

Based on the literature review, the factors affecting the sustenance of the weaver's community are city development, technology, and socio-economy. Variables were identifiedto understand the effect of these identified factors (independent variables) on the sustenance of weavers (dependent variable). These are infrastructure development, employment generation, and change of technology, respectively. Their effect on the dependent variable was measured by the use of factors such as unemployment, community cohesion, and social capital (economy generated by the community through their social ties known as social capital). Figure 1 below shows the conceptdiagram to understand the effect of the differentfactors on community sustenance.

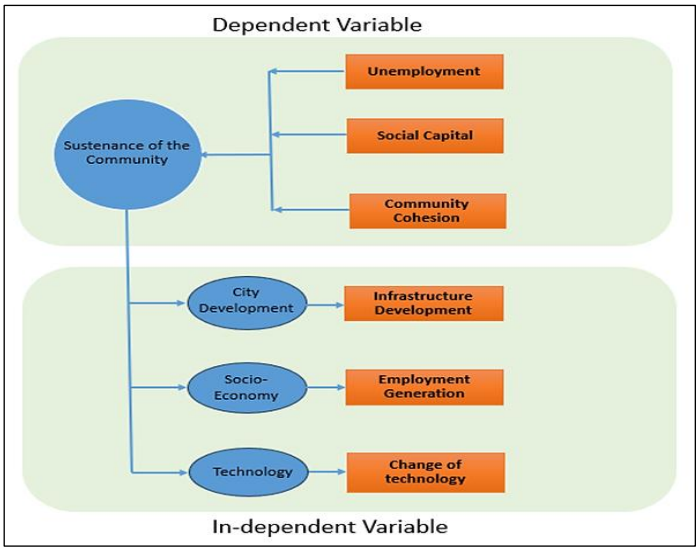

Figure 1: The Concept Diagram to understand the Effect of the Different Factors on Community Sustenance

Development of Survey Instruments

The questionnaire has been developed following the factors identified through the literature review. The investigations focused on aspects including socio-economy, technology, city development, unemployment, community cohesion, and social capital. The participants were directed to select the appropriate options on a scale from 1 to 5, with 1 indicating poor or less likely and 5 representing good or most likely. The draft of the questionnaire underwent evaluation by experts, and a pilot study was carried out with a sample size of 10 to determine the reliability of the questionnaire. After conducting the reliability assessment with Cronbach's Alpha, the confidence coefficient was found to be 0.92, demonstrating that the survey questionnaire is reliable and appropriate for data collection. Given the respondents' limited proficiency in English, the questionnaire was translated into Marathi and Hindi, and data was collected by administering the questionnaire in those languages. The questionnaire/responses were then retranslated into English for analysis.

Area of Survey

The residential zones of weavers located in Mominpura and Itwari market within Nagpur city were selected for data collection through the survey questionnaire. The proximity of these areas to one another result in a significant overlap regarding weaving activities. These two locations represent a segment of the historical Nagpur colony founded by Bhosale I. Nagpur holds a prominent place in central India. Traditional raw materials like cotton and kosa silk are available in the central region and can be easily transported to the city through road and rail networks. Nagpur holds importance in the realm of modern textile production, as it was the site where Jamshedji Tata founded the oldest textile mill, the Empress Mill, in 1877. The city is celebrated for a distinctive weaving technique called Karvati, crafted in lengths of nine and six yards. Furthermore, the city's artists also craft carpets and various household items. Nagpur was among the 100 cities developed under the Smart City Mission, witnessing significant advancements in its urban infrastructure. This context makes it particularly beneficial to investigate how urban development influences the everyday experiences of the city's weavers, a community that has existed for centuries.

Data Collection and Analysis

The preliminary data were gathered from a specific set of weavers and those involved in associated activities using a snowball sampling technique. The chosen weavers and their relatives who worked in weaving or related fields and resided in the Mominpura and Itwari areas were selected to answer the questionnaire. A total of 140 responses were collected from a designated area, intended for data analysis, out of which 12 responses were rejected due to incomplete information. Finally, 128 responses were considered for further data analysis. This sample size has a mix of weavers, artisans working on

textiles, and textile cooperative officials. As only a small amount of data is gathered for this study, this is considered a pilot study, which gives an idea of the correctness of the considered methodology and tests the concept map generated on the basis of the literature review. The analysis of the gathered data involved a Kendall's Tau correlation test to evaluate the correlation coefficient, focusing on the impact of social-economy, technical, and city development factors on the sustenance of the artisan community. The analysis was conducted using SPSS software.

To understand the effect of the built environment on the daily work of the weavers and artisans involved in the allied activities, the observations were made through informal interactions and the documentation of the selected houses and shops of the artisans. The same is represented through diagrams of plans, cross-sections, elevations, and images. The identified area is subsequently examined using contemporary Google Maps, and the impacts of development are emphasized through careful observations.

Results

The collected data is analysed in two ways. The first is the data gathered through the questionnaires, and the other is data gathered through the documentation of the selected area in terms of plans, sections, elevations, and images.

Results of the Questionnaire Survey

Upon examining the responses from individuals engaged in textile weaving or related activities within the textile industry, the demographic data indicates in Figure 2 that 96% of males participate in weaving activities, while only 4% of females are involved in these activities. The involvement of females in allied activities related to textiles indicated in Figure 3 stands at 46%, while males account for 54%. Which also denotes that the women are actively involved in the after-weaving activities like embroidery and stitching work? The involvement of women in these activities also allows them to be financially independent. The living conditions of the weavers' families are linked to the types of dwelling units they occupy and their overall condition. The data indicates that 86% of weavers reside in pukka houses, while 14% live in semi-pukka houses shown in Figure 4. In this study, the houses constructed with the RCC are considered as Pakka houses, whereas houses having columns and walls but a roof that is not out of concrete are considered as semi-pukka houses. A significant proportion of weavers, specifically 75%, earn between Rs. 5,000 and Rs. 10,000 each month. Meanwhile, 15% of weavers have monthly earnings ranging from Rs. 10,000 to Rs. 15,000, and 10% earn above Rs. 15,000 monthly shown in Figure 5.

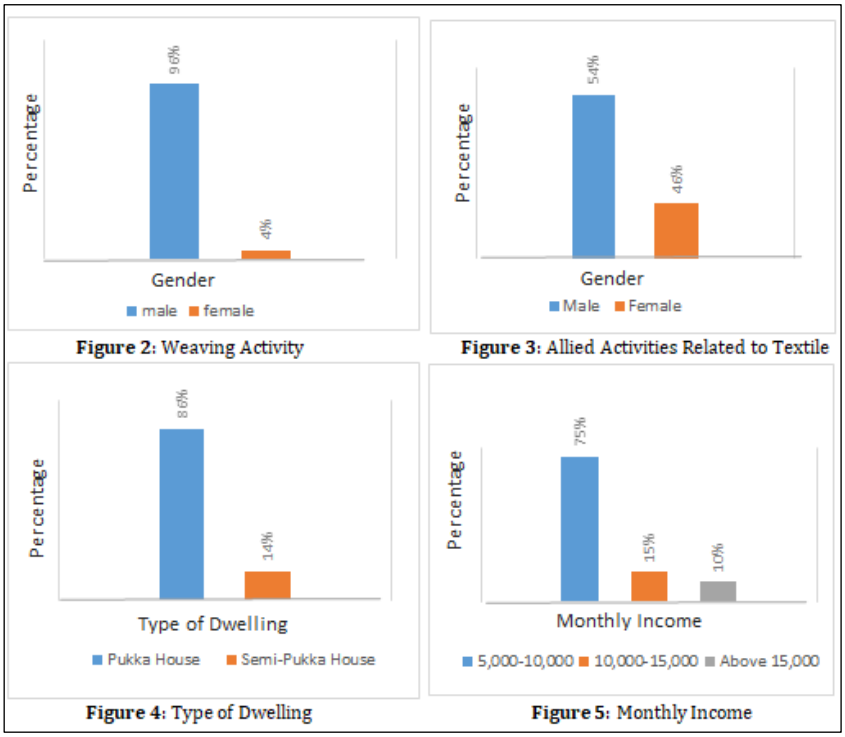

Figure 2: Weaving Activity

Figure 3: Allied Activities Related to Textile

Figure 4: Type of Dwelling

Figure 5: Monthly Income

To analyse the impact of the identified variables—city development, socio-economy, and technology—on the sustenance of the weavers' community in Nagpur city, a correlation analysis was conducted using Kendell's Tau-b method of correlation in SPSS software. Kendall's Tau measures the strength and direction of the relationship between the two variables in the range of +1 to -1. A value of 1 indicates the perfect correlation between the variables, whereas a value of -1 indicates the perfect anti-correlation between the variables, and 0 suggests no correlation. After running the data via SPSS software, the results were tabulated in Table 1. As per the correlation matrix shown in Table 1, it is been observed that the technology change is strongly correlated with unemployment, with a correlation coefficient of 0.478 with a significance value of 0.000 (<0.05). This also means that as the technology changes from handloom to power-loom, unemployment increases and affects the sustenance of the community. Similarly, the development of city infrastructure strongly correlated with the cohesive bond between the weavers and artisans, with a correlation coefficient of 0.468 and a significance value of 0.000 (<0.05). This interprets that as the city infrastructure develops; the cohesive relationship between the artisans strengthens and affects the overall sustenance of the community. In table 1, it is also been observed that social capital generated by the community through their social ties is strongly correlated with the employment generation with a correlation coefficient of 0.510 and a significance value of 0.000 (<0.05). which also means that the social capital or economy generated via social ties also generates employment for the community and affects the sustenance of the community.

Table 1: The Correlation Matrix using Kendall's Tau-b Method

		Change Of Technology	**Un-Employment**	**City Infrastructure Development**	**Community Cohesion**	**Social Capital**	**Employment Generation**
Change of technology	Correlation Coefficient	1.000	**.478****	-.036	-.001	.091	.205**
	Sig. (2-tailed)	.000	**.000**	.643	.991	.234	.007
	N	128	128	128	128	128	128
Un-employment	Correlation Coefficient	**.478****	1.000	-.090	.085	-.024	-.072
	Sig. (2-tailed)	**.000**	.	.239	.248	.746	.330
	N	128	128	128	128	128	128
Infrastructure development	Correlation Coefficient	-.036	-.090	1.000	**.468****	.059	.002
	Sig. (2-tailed)	.643	.239	.000	**.000**	.444	.977
	N	128	128	128	128	128	128
Community cohesion	Correlation Coefficient	-.001	.085	**.468****	1.000	.154*	-.071
	Sig. (2-tailed)	.991	.248	**.000**	.000	.040	.336
	N	128	128	128	128	128	128
Social capital	Correlation Coefficient	.091	-.024	.059	.154*	1.000	**.510****
	Sig. (2-tailed)	.234	.746	.444	.040	.000	**.000**
	N	128	128	128	128	128	128
Employment generation	Correlation Coefficient	.205**	-.072	.002	-.071	**.510****	1.000
	Sig. (2-tailed)	.007	.330	.977	.336	**.000**	.000
	N	128	128	128	128	128	128

***. Correlation is significant at the 0.01 level (2-tailed)*

**. Correlation is significant at the 0.05 level (2-tailed)*

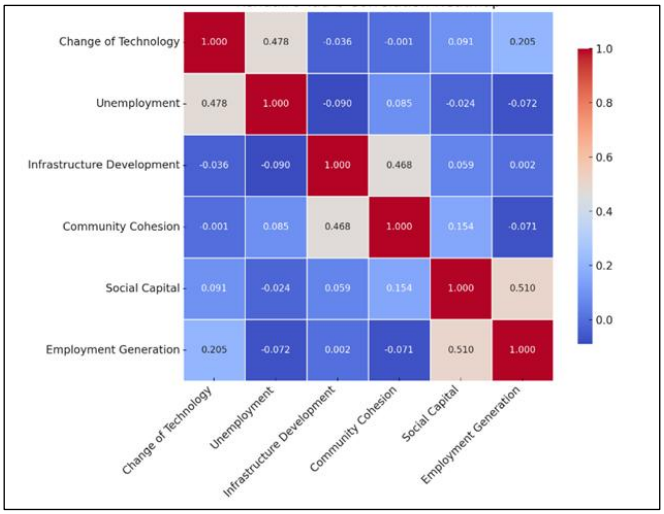

Figure 6: The Kendall's Tau-b heatmap

Based on the correlation Table 1and the heatmap in Figure 6 are generated to represent the correlation graphically. Finally, the correlation analysis of this pilot study shows that the community sustenance is based on the socio-economy, technology, and city development in positive aspects.

Further, to understand the built environment of the weavers and artisans involved in the allied activities, the documentation of the selected dwelling units and shops was carried out and represented in the form of plans, sections, elevations, and images.

Documentation on the weavers of Nagpur

Nagpur stands as the largest city in central India, often referred to as the heart of the nation due to its strategic geographical position. The city serves as the nation's hub, boasting excellent connections via rail, road, and air, thereby enhancing nationwide accessibility. According to a report by Oxford's Economic and Times of India, Nagpur ranks as the 5th fastest growing city globally, exhibiting a growth rate of 8.41% from 2019 to 2035 (2, 17). Nagpur boasts a cultural history spanning over 600 years and is recognized as a significant centre for the textile industry. In proximity to the extensive production zones of cotton and silk, the weavers in the city benefit from convenient access to the essential raw materials. Typically, the weavers' community, primarily located in the city's centre, Momimpura and Itwari, produces dhotis, sarees, rugs, and various household items. The two primary groups engaged in weaving and related textile activities are the Muslim community, known as Momins, and the Hindu community, referred to as Koshti. The chosen region is recorded through plans, sections, and elevations to analyse its living and working conditions, particularly in Itwari, known for its wholesale market.

Figure7: The Area of the Itwari Market, and Mominpura was selected for the Study (18)

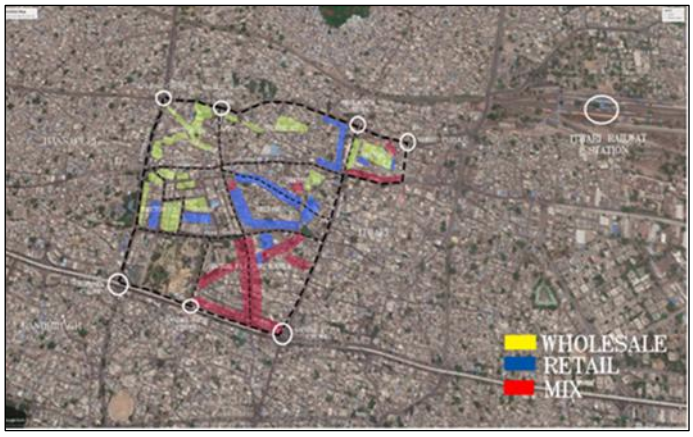

Figure 8: The Landmarks and Division of the Commercial Area along with the Residential Areas Weavers (18)

In the chosen region of Itwari and Mominpura, located in the centre of the city of Nagpur, denoted in Figure 7 and 8, there is a notable coexistence of residential and commercial activities, resulting in significant spatial overlap. A significant number of houses engage in weaving and related activities such as embroidery, printing, finishing, and stitching work. This location is situated less than 1 Km from Nagpur Railway Station and is conveniently linked to Central Avenue Road, facilitating easy access to raw materials for weaving, such as yarn and various decorative items needed for finishing work. In response to market demands, the head karigar or weaver determines the design, guiding the other weavers to align their efforts accordingly. The completed fabric is determined by the specifications set for embroidery, whether it involves machine or block printing, as well as apparel stitching and related processes. The completed product is subsequently dispatched to the adjacent Itwari market or, according to requests from various locations within or beyond the city. The sections of the Itwari market, particularly those along the main roads, have been transformed into commercial units, while the interior areas of the locality remain designated for residential purposes. The vertical segregation occurs as well, with the lower levels, such as the ground and first floors, being repurposed for commercial or work-related activities, while the upper levels are designated for residential use. The subsequent Figure 9 illustrates the designated area for the investigation, encompassing the residences engaged in weaving and embroidery activities, as well as the commercial sector of the Itwari market.

Figure 9: The Selected Study Area for the Documentation of the Residential and Commercial Activities of the Weavers and Allied Activities (18)

The documentation of the chosen houses is carried out through sketch plans and sections to analyse the utilization of space and the multifunctionality of areas according to the needs

of the family living in the house. Observations indicate that the ground floor of residences is typically employed for weaving or related textile activities, such as printing for embroidery, embroidery itself, and additional fixation for cloth or apparel, among others. The ground floors often serve as communal working spaces for medium to large-sized organizations. Figure 10 shows that the ground level of buildings typically serves as a storage space for raw materials and finished products, along with small offices for larger operational units. The upper floors typically serve as the living quarters for the family. During non-working hours, the ground floor is typically utilized as a space for family or community gatherings, serving the neighbouring families for their meetings and celebrations.

Figure 10: The Section Indicating the Division of Spaces for Different Activities

Another house from the same locality has been selected where weaving activity is carried out. As discussed earlier, the ground floor of the house is utilised for weaving activities, whereas the upper floor is utilised for dwelling purposes. Figures 11 and 12 show the documentation of the house is represented below through plans, sections, and photographs. The finished cloth, as per the requirement, is either sold or sent for further processing of stitching or embroidery.

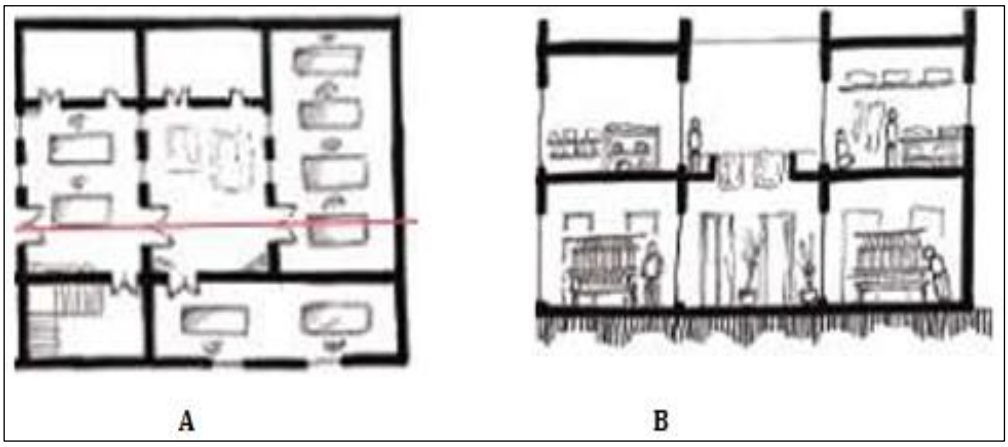

Figure 11: Plan and Section of the House having Weaving Activity

Figure 12: The Weaving Activity in Progress

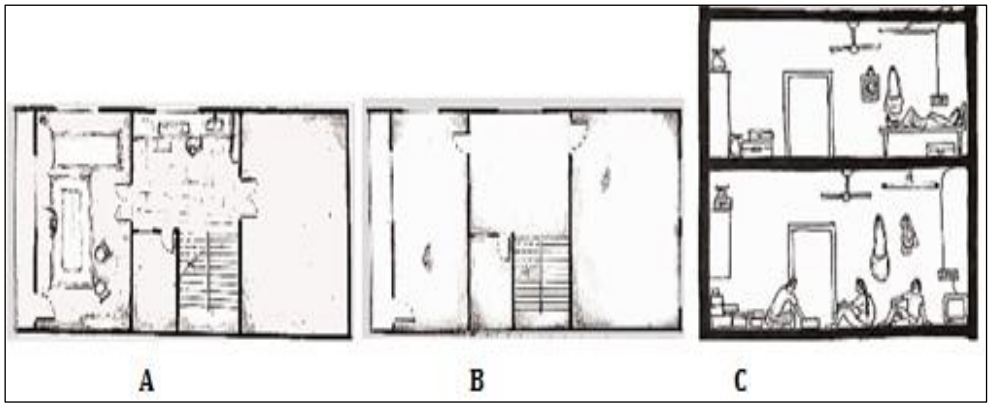

Figure 13: Ground Floor Plan, First Floor Plan, and Section of the House

The other house is also documented from the same locality where the finishing of the woven cloth is done. The following figures, Figure 13, show the plans section, and Figure 14 shows the photographs taken during the documentation process. The ground-floor and first-floor plans show activities like finishing the woven saree and storage of the finished item, and residential activities, respectively. The inner spaces of the ground floor are converted into family spaces in later hours of the day. The following photograph in Figure 14 shows the artisan busy finishing work like weaving buttas, embroidery, and so on.

Figure 14: Artisan is engaged in Finishing the Saree with Buttas and Embroidery Work

Similarly, the documentation of the commercial area of the Itwari market is documented and represented in the form of plans, sections, and photographs in Figures 15 and 16. These areas are the busy marketplaces with individual shops where the finished goods from the nearby area of Mominpura are sold by the retail and wholesale shops. The detailed plan shown below in Figure 17 of one of the nodes in the Itwari market shows the arrangement of the shops and narrow lanes through which we can approach these shops.

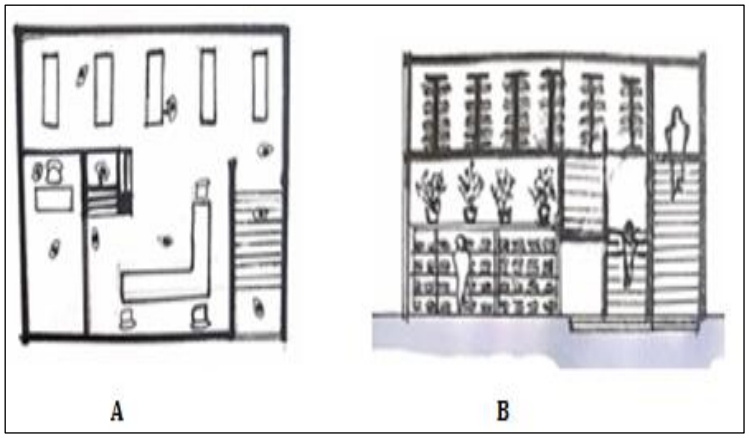

Figure 15: The Plan and Section of the typical Shop of Itwari

Figure 16: The Market Area of the Itwari with Different Retail and wholesale Shops for Textile Items

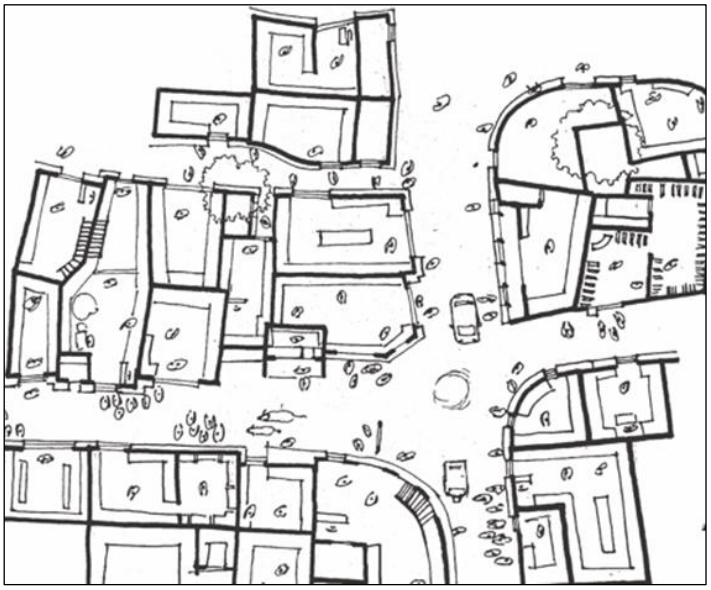

Figure 17: The Plan of one of the Nodes of selected for Study in the Itwari Market Area

In the course of documenting this area, it is noteworthy that this is the oldest marketplace in the city. Many of the buildings are quite old, and the residents often undertake renovations and extensions according to their preferences and desires. This further exacerbates the congestion in this area, resulting in a highly crowded environment that is challenging to navigate. This raises concerns regarding cleanliness and the accessibility of vehicles to the shops for emergency services, such as the fire brigade and medical assistance. Figure 18 illustrates the accessibility and connectivity of the area with other parts of the city and state. The location boasts excellent connectivity to the Nagpur metro and is situated less than 1 km from the Nagpur railway station. This location holds significance for economic purposes; however, when considering the well-being of the residents, it is not an ideal area for habitation because of the congestion.

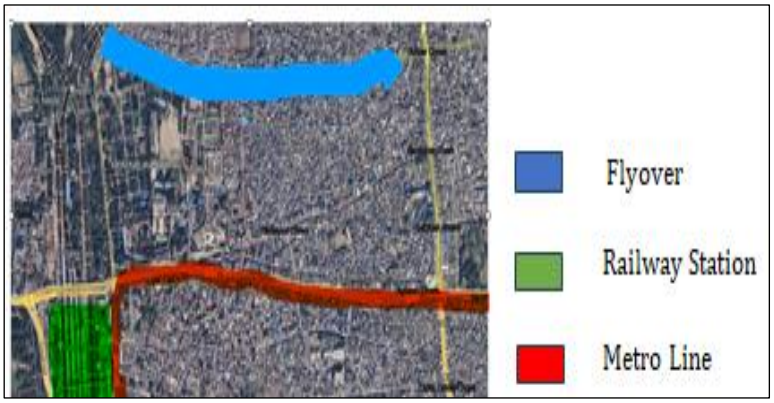

Figure 18: The Metro Line, Flyover, and Nagpur Railway Station (18)

Throughout the documentation and survey, it has been noted that the number of weavers participating in this activity is declining rapidly due to the significant drop in demand during the pandemic period. Observations indicate that the younger generation shows limited interest in this traditional vocation, which is impacting the sustainability of these communities. Despite encountering numerous challenges, they continue to persevere due to their strong social cohesion and mutual support, which fosters economic development via generating their intra and inter-community ties. The revival of city transportation services facilitated access to a broader spectrum of buyers and various marketplaces within the city. City services such as cleanliness, accessibility, and security must be designed following the community's needs, ensuring that the established traditions and setups remain undisturbed.

Discussion

The concept of sustainable development refers to an approach that satisfies current needs while ensuring that future generations can also fulfil their requirements. In an urban context, this refers to cities that either avoid creating issues for themselves or are capable of addressing their challenges sustainably, benefiting both their current citizens and communities (19). This study of the weaver's community in the Itwari and Mominpura in Nagpur city gives detailed insights into the community living and working together with their devised ecosystem to maintain their social, cultural, and economic needs and changing surroundings in terms of the development of the city. The effects of different factors like economy, technology, and socio-cultural set-up are important factors that affect the community's sustenance.

The study done by researchers elaborates that the sustenance of the artisan's community is strongly dependent on the economic factors like employment generation and sustainable economy (20). This study further analysed the effect of this factor on the weavers in the city. The other researcher studied the traditional settlement and concluded that the sustenance of the communities is closely dependent on their geographical location, as they develop stronger socio-cultural relationships and enhance the local economy by creating more opportunities and an inclusive approach (5). Other researchers elaborated in their study, the fast-changing technology in the field of traditional craft because of the market

demand and the buyer's approach. The study emphasises on the importance of maintaining the traditional craft and knowledge system. To have a competitive approach for craftsmen, easy access to information, design and technology are important (21). Additionally, challenges such as a lack of desire among young people to become craftsmen and the impact of mass consumption and globalization need to be addressed. During the study, it is also been observed that the future generation is not very excited to carry out the generational craft of weaving, as other opportunities are easily available in the city.

In many instances, sustainable communities face destruction due to contemporary planning approaches or concepts that are applied to these areas without regard for their socio-economic and cultural contexts, instead of leveraging their intrinsic local intelligence. The urban features of these communities possessed an inherent quality of intelligence that promoted inclusiveness and sustainability. The inquiry at hand considers how emerging urban technologies will pave the path for intelligent planning. Urban practitioners and decision-makers must try to preserve the historical foundations of existing old cities when creating development plans, ensuring that these plans remain people-friendly. Observations by other researchers indicate that the development of cities involves various communities, such as artisans, whose perspectives on development warrant thorough examination. These groups are crucial stakeholders and play a significant role in the city's economic growth and cultural identity (22).

Various government initiatives have been introduced to enhance the conditions of artisans, such as handloom weavers; however, many artisans remain unaware of these programs, which have a direct impact on their livelihoods and overall growth (13). The Indian government implements initiatives such as Smart City Development, requiring cities to articulate their vision and mission statements, which emphasize the inclusive growth of citizens and the preservation of cultural values in a sustainable way and also contribute towards the Sustainable Development Goal 11 that is the sustainable growth of the cities. However, many vision statements emphasize the implementation of technology to create smart cities, which tends to neglect the essential needs of the communities living in these urban areas, as well as their economic and cultural stability.

During this pilot study, it has been observed that the weaver's communities residing in the area of Mominpura and Itwari, Nagpur, enhance the community sustenance through their use of city infrastructure to maintain the social cohesion within and outside the community, their socio-economic ties to generate the local economy, and implementing the technological advancement in the designing and weaving process. The strategic location of the community and the development of the city infrastructure, like the metro line, also connect this area to the other parts of the city, which again generates better opportunities for the communities residing in this area. On the other hand, while developing the city infrastructure in the form of the Nagpur metro and the flyover, the land acquisition process leads to the loss of residential and commercial properties. Similarly, over a period of time, during the city's development, the area where these communities are residing is becoming more compact and crowded. Because of the location of the land where this community is residing, the land prices and commercialisation of the properties are increasing. This change in the usage also impacted the identity of the community and the intangible heritage value that the community has carried for ages. Hence, the infrastructure development needs to be planned without disturbing the community setup, considering their social and economic needs.

Conclusion

The areas of Itwari and Mominpura are the old areas of the city where different artisan communities resided, grew, and flourished over a period of time. As these artisan communities reside in this area, the marketplaces were also developed around it, and now it is one of the major wholesale markets in the region. The handloom artisans in the selected area were divided into two communities: the Muslim community, known as Momins, and the Hindu community, known as Koshtis. During the study, it has been observed that the maximum number of handlooms is now converting into power-looms and very few families are now practicing the old methods of handloom. Other than the weavers,

the other communities that are involved in the finishing work or further designing and stitching is done by the supporting artisans living in the same area. This way of working created a complete ecosystem where the raw material is used for weaving and the finished product is sent to the wholesale market in Itwari and surrounding areas. The documentation of this area further shows that the location of the market, transportation facility, and city infrastructure in terms of Itwari market, Nagpur railway station, and metro line, respectively, further strengthens the economy of the locality. This further gives the scope of stronger socio-economic development and sustenance of the weavers.

Urban conservation initiatives in India have primarily concentrated on the physical fabric, while the intangible elements of heritage, such as crafts, have not received adequate attention.

This study targeted to the weavers and artisans' community working on the textiles residing in the Mominpura and Itwari area of Nagpur city, Maharashtra, and emphasizes the importance of the sustainability of historic urban areas, which are essential to support traditional urban livelihoods that contribute to the preservation of traditional crafts of Karvati weaving and their associated intangible heritage. The predominant reliance on small-scale enterprises and the continued significance of artisanal skills in this city-based small-scale art and craft factories necessitate their integration into the broader economic development framework of the city. This initiative will contribute to the local community, mitigate gentrification, and, most importantly, guarantee a comprehensive and sustainable safeguarding of both the tangible and intangible heritage found in historic urban areas.

This pilot study also brings forth that the sustenance of the weavers community in Nagpur city which was studied is affected by the city development, socio-economy, and technological factors, as the infrastructure growth in this area in terms of metro line, flyover, and the location where this community is situated give the strategic edge to excel and flourished if the city development, socio-economic and technological factors are addressed properly by the local authorities, city planners and the weavers association and co-operatives themselves.

While doing this study, it has been observed that the community has cooperative societies which are formed by the weavers themselves and receive government support as handloom cooperative societies. The textile industries from and around the Nagpur city provide the yarn to these viewers, which is utilized by them for further processing. Also, the fast-changing technology from handloom to power-loom affects the weavers and the requirement of manpower, which leads to unemployment. The urban development policies are not considering the neighbourhood development requirements of these communities, and hence, can affect the social cohesion of the community and overall development. Thus, urban planners need to be more sensitive towards the needs of communities while proposing the development plans for these kinds of areas.

Abbreviation

None.

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Author Contributions

Both authors contributed equally to the conception, design of the research study presented in this paper and the preparation of the manuscript.

Conflict of Interest

The authors declare no conflict of interest in this study.

Ethics Approval

This Study was conducted by following the ethical standards and by taking consent and approvals from the participants

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