

Evaluation of Factors Influencing the Spatial-Physical Structure of Worn-Out Urban Fabrics (Case Study: Worn-Out Fabrics of Dogonbadan Town)

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Abstract: Many traditional tissues that once had value and quality in the cities are now subject to destruction. A large part of the residents has migrated for various reasons, the historical, cultural and social values of the neighborhoods have also suffered a crisis. Today, only a few buildings can be seen in these neighborhoods, which have the color and flavor of their glorious past. The current research is of descriptive-analytical type and is practical in terms of purpose. Data collection was conducted by library, documentation and field methods. The innovative aspect of the research is based on the pathological approach to the qualities of urban tissues in the physical-spatial structure; therefore, with a more recent look, the main factors affecting the loss of traditional residential areas and its social deterioration can be identified and the causes of the worn-out texture can be explained. This research aimed to investigate the factors affecting the specific and physical conditions of the worn-out urban fabric and to find solutions for effective intervention in the worn-out fabric of Dogonbadan city. The collected data were processed, tested and analyzed using Excel and SPSS software. The Arc GIS10 software was used to draw the maps. Based on the findings, there is a significant relationship between the low financial power of the residents of worn-out fabrics and the lack of reconstruction. The lack of proper and sufficient income of the residents of these areas prevents the implementation of reform and reconstruction projects (with a correlation coefficient of 0.289). Also, the analysis of the physical structure of worn-out urban tissue is a prerequisite for the organization and reconstruction of worn-out tissues (with a Chi-square of 500.258 and a significance level of 0.000 for the structure quality index and a Chi-square of 425.321 and a significance level of 0.000 for the reconstruction materials index). In future studies, in addition to internal factors, management factors can also be evaluated and concluded in the functioning of urban fabrics.

Keywords: traditional tissues, worn-out fabric, reconstruction and improvement, Dogonbadan.

影响破旧城市肌理空间物理结构的因素评估 (案例研究 : 多贡巴丹镇破旧肌理)

摘要: 许多曾经在城市中具有价值和质量的传统纸巾现在都遭到破坏。很大一部分居民因各种原因迁移, 街区的历史、文化和社会价值也遭遇危机。如今, 这些街区仅能看到少数几栋建筑, 但仍保留着昔日辉煌的色彩和韵味。目前的研究属于描述-分析型, 在目的上是实用的。数据收集是通过图书馆、文献和现场方法进行的。该研究的创新方面是基于对物理空间结构中城市组织质量的病理学方法; 因此, 通过最近的观察, 可以确定影响传统居住区丧失及其社会恶化的主要因素, 并可以解释破旧纹理的原因。本研究旨在调查影响破旧城市肌理的具体物理条件的因素, 并寻找有效干预多贡巴丹市破旧肌理的解决方案。使用 Excel 和 SPSS 软件对收集到的数据进行处理、测试和分析。地理信息系统 10 软件用于绘制地图。根据调查结果, 破旧织物居民的低经济能力与缺乏重建之间存在显著关系。这些地区居民缺乏适当和足够的收入阻碍了改革和重建项目的实施 (相关系数为 0.289)。此外, 对破旧城市组织物理结构的分析是组织和重建破旧组织的前提 (卡方值为 500.258, 结构质量指数和卡方值为 0.000 的显著性水平) 425.321 的平方和重建材料指数的显著性水平为 0.000)。在未来的研究中, 除了内部因素外, 管理因素也可以在城市结构的功能中进行评估和总结。

关键词: 传统纸巾、破旧布料、改造与改良，多贡巴丹。

1. Introduction

In the sense of physical and social decay, worn-out urban fabrics are the product of mutual impact and impression of social processes and space and it is a geographical problem [1]. The problems of dilapidated urban structures are an issue that has faced many problems in the field of urban planning and one of the most important urban challenges due to the lack of proper urban infrastructure and the decline in the performance of these structures due to many years of neglect [2]. Many traditional urban fabrics in which cities once took pride are now exposed to decay and destruction. A great proportion of the residents of those areas have moved out and the cultural, historical, and social heritage specific to those historical neighborhoods has been destroyed or is being destroyed. These urban tissues, usually have historical and cultural values, the loss of which causes the society to suffer a kind of social exhaustion [3].

Worn-out urban fabrics refer to areas within cities that due to physical weariness and lack of proper roadway access, facilities, services and infrastructure are vulnerable and possess negligible environmental, economic and (implicitly) social values [4]. Only a few buildings have persisted. These buildings are the monuments of the past and represent the old identity of the fabric. Worn-out urban fabric is an area of the legal confines of the cities that is vulnerable due to physical decay, inappropriate roadway access, inappropriate equipment, services, and vulnerable urban infrastructure. Such fabrics have low geographical, environmental, and economic value [5]. Generally, the decrease in the efficiency of each phenomenon leads to its decay. When the life of a part of a city is challenged due to any reasons, the urban fabric of that area is exposed to decay [6]. The decay of a fabric or its internal elements is caused by obsolescence or lack of development plans and technical supervision of the formation of that fabric [7]. Due to the poverty of their residents and owners, these fabrics have not had the chance of automatic reconstruction, and investors are not willing to invest in them. The decay fabric of Dogonbadan town is no exception. Today, great construction is occurring in other areas and the worn-out fabrics are becoming dilapidated. However, attention has been paid to the worn-out fabrics of the town in the recent years and the authorities of the town are trying to find a solution to this problem.

Nowadays, with the growing problems of human societies and their increasing escalation and the decline in the quality of life and living standards of residents in different places, it has been mainly used: so that most

designers, planners and urban decision-makers paid more attention to it [8] In fact, the result of today's planning and design in urban contexts will definitely reach the limit of exhaustion in the passage of time [9].

1.1. Problem Statement

As a spatial-temporal phenomenon, a city is constructed at a specific point. It develops and grows in space and at each historical period turns its quantitative changes into the required qualitative changes of that period. If these two aspects are not in coordination and alignment with each other and city-time is against city-time, the urban climate and physical conditions lose their efficiency and ability to meet the current and future needs of the residents [10]. Before the rapid growth of urbanization, urban spaces and the physical conditions of cities would be formed on the basis of the needs of the citizens and enjoy optimal coordination. Therefore, in addition to forming the physical shape of the cities, the existing elements of the cities also representable cultural and social values of the residents. With the rapid growth of urbanization caused by domestic and foreign economic changes in the contemporary age, the country's urban system has undergone great transformations that resulted in excessive immigration to cities [11].

The passage of time and lack of maintenance due to the lack of necessary investment to maintain worn-out tissues causes these tissues to face special features such as lack of access to the tissue, lack of proper infrastructure facilities, environmental problems and high pollution volume, lack of policy to explain and document urban design projects. It should be noted that the study of the relationship between the concept of worn-out component and its internal factors in an internal relationship with the urban resilience system is absolutely necessary [12].

As a result, urban organizations have designed plans to control such immigrations. However, most measures taken by the responsible organizations failed [13]. Also, numerous durable buildings, low property values, insecurity, and socio-cultural problems. The instability of construction materials and the poverty of the residents of parts of the worn-out fabric of cities cause more decay on the worn-out fabric [14].

1.2. Significance of the Study

The fundamentals of urban life collapse when the physical conditions of the city lose their function and fail to meet the current and future needs of their residents. This issue, which is the result of the contrast of time and space, is clearly evident in the old fabrics of Iran and has led to the collapse of urban spaces.

Aiming at removing shortcomings and deficiencies in some patterns and models designed for Dogonbadan town, this study helps theoretically analyze and explain physical urban development theories and organize and revive the central part of the city. The fast, excessive growth of cities and lack of attention or scant attention paid to old fabrics, especially the worn-out fabric of Dogonbadan, has led to the excessive physical development of the city.

This leads to negligence of the central city parts and the abandonment of old, worn-out fabrics and ultimately results in the destruction of old fabrics, which contain an area of cultural identity and thoughts of different historical periods. Additionally, from a social and cultural perspective, old fabrics or the central areas of old towns are the epitome of the original culture and behaviors of Iranians and mirror the culture and a collection of Iranian local cultures. Therefore, to prevent indiscipline and chaos in old city fabrics, it is necessary to pay attention to changes and logical evolution.

In Dogonbadan town, the collapse of old fabrics is at an early stage. Therefore, to prevent what has happened in other areas, it is necessary to promote its life.

The factors showing the necessity of paying attention to the old fabric of Dogonbadan town are as follows:

- 1) The importance of the fabrics in the physical conditions of cities as the heart of the economy: most of the country's oldest fabrics are located near structural and principal axes of the city, the market and business areas, and physical and performance decay will sooner or later reach these centers.

- 2) The lack of coordination of the fabric and new needs of the users, inconsistency and lack of proportion, of new criteria with the fabric identity, existence of new inappropriate uses in the fabric, and the per capita distance of current uses of the standard, acceptable per capita standards.

- 3) The importance and necessity of offering services in critical situations: inefficiency and weakness of accessibility and communication networks and lack of public transportation and emergency services in all areas of the fabric, extreme shortage of urban equipment such as firefighting teams, emergency centers, rescue sites, etc.

- 4) Reduction of the quality of residential units in the fabric over time in terms of structure and materials and lack of reconstruction and repair of these residential units.

2. Literature Review

The early steps to revive old fabrics of cities should be sought in Western Europe, especially in France, England, because of the start of the industrial revolution in these countries (1760-1830) and the subsequent development of industrialization that led to

the city's greater experience compared with other countries. In fact, the movement of revival of city centers started 150 years ago in these countries [15]. In Iran, however, changes in the cities started during the dynastic period. In other words, the Industrial Revolution served as the basis of such transformations in the West by making essential changes in production and social relations and the reconstruction after World War II [16]. The first attitudes to old fabrics in Iran were formed in 1971 in the first seminar on the restoration of historical buildings and cities, where the issue of protection and restoration of cities and buildings was discussed as the factor influential in the development of the country [17]. Important studies have been conducted on the worn-out urban fabric in Iran and around the world. The following are some of these studies:

An attempt was made to identify the concept of sustainable urban design and to investigate the required essential factors for improving social sustainability in projects of urban improvement and revitalization [18]. In this research, which was conducted in Hong Kong through distributing questionnaires, the opinions of architects, designers, finance directors and local citizens were collected and investigated. The findings of data analysis reveal that the specific features of the plan must be aligned to achieve social sustainability [18].

The strategies of improvement and the revival of deserted, worn-out residential areas in Ankara city were investigated in [19]. He considers the revival and reconstruction of such areas as spatial strategies to give identity to the residents of such areas and increase the citizen's required equipment.

Besides, in Iran, regarding the reconstruction of historical buildings and cities, the theories and characteristics were investigated together with the evolution of common methods for revival in the section on architecture and association with the environment, from the physical spaces to biological spaces, factors of decay and destruction of historical cities, from single buildings to urban fabrics and changing its foundation in the architecture section [20].

People's culture, manners, and traditions and other factors must be considered in reviving cities. It is not enough to merely attempt to improve the physical quality; rather, we should consider the economy and society of the area under study. Various types of fabrics were studied in [5] with a focus on their problems and issues; the history of designing, reconstruction, and improvement of old and worn-out fabrics in Iran; and the issues pertaining to these plans. It was concluded that in each type of improvement and reconstruction, objectives, resources and means to achieve the resources must be coordinated with each other, and all facilities must be used with prior planning.

In a general view, the researchers mentioned in the focus of this research can be evaluated in several cases

1) Most of the mentioned internal studies reviewed the dimensions of burnout in the conceptual and fundamental dimensions and most of the repeated models of the structure have presented the main concept assessment.

2) Exhaustion has been considered in all dimensions, such as physical, social and economic. Most of the general state of the concept has been considered and one dimension has not been specifically addressed in its own type of evaluation.

3) In the social dimension, the recognition and analysis of the sample has been mostly done with repeated methods that generally started with the survey method and after the extraction using the geographic information system, these analyses were refined, which obviously did not continue after the effects in the same documents. Foreign studies have also addressed the issue of decay in urban areas in the form of regeneration projects and the type of evaluation method.

3. Theoretical Framework

3.1. Worn-Out Urban Fabrics

Worn-out urban fabric is an area of the legal confines of the cities, which is vulnerable due to physical decay, inappropriate roadway access, inappropriate equipment, services, and vulnerable

urban infrastructure. Such fabrics have low geographical, environmental, and economic value. Due to the poverty of their residents and owners, these fabrics have not had the chance of automatic reconstruction, and investors are not willing to invest in them [5]. In fact, it could be said that problematic (worn-out) fabrics are urban fabrics where the presence of different factors and elements has reduced the qualitative value of the human environment (from physical, functional, environmental, economic, and social aspects). As residential values diminish, reconstruction in the fabric is stopped and the tendency to emigrate in the residence increases [21].

3.2. Schools, Theories, and Models for Organizing and Reviving Old and Worn-Out Fabrics

By employing the sustainable urban development theory, this research attempted to direct the future urban growth and development in appropriate directions and in an intensive and sustainable fashion because the central part and the middle fabric of the city could serve as appropriate resources for the future of the city. The study also attempts to identify areas facing a shortage of specific uses, especially in old and worn-out urban fabrics and to define the intended uses for these areas.

Table 1 Schools of improvement and reconstruction of worn-out urban fabrics [22]

School	Improvement and reconstruction types
Culturalism	Prioritization of spiritual needs over material needs: improvement and reconstruction by reviving past cultural values
Progress-oriented	When reconstructing old cities, nothing is kept but roads: prevalence of bulldozer urban development
Ecological school	Stagnation of the city's old fabric caused by social and economic groups and segregation resulting from social injustice
Structured-oriented	Taking into account a coherent whole in urban improvement and reconstruction: paying attention to harmony and cohesion in this process
Functionalism	Improvement and reconstruction must be aligned with the city's economic and functional development
Structuralism	A systemic approach toward the city; improvement and reconstruction of physical-spatial structures in collections and single buildings
Aestheticism	Paying attention to the visual aspect and emphasizing beautification as the only appropriate approach to urban improvement and development
Modernism	Excessive tendency to preserve historical monuments to the extent of improvement and reconstruction of dead, non-historical buildings.
Post-Modernism	Mostly think about social relations in the city; stimulating the sense of place; reviving what is of local and specific value
Humanism	Paying attention to people and their participation in the improvement and reconstruction of urban spaces, people-oriented interference
Neo-classicism	Paying attention to history and culture, not by imitating the past, rather by updating the buildings

The following are some of the most important theories about the reconstruction and improvement of worn-out urban fabric. The conservative theory: Advocates of this theory believe that we must refrain from interfering with the current conditions as much as possible. An ancient building serves as a piece of historical evidence and no attempt must be made to remove the uncoordinated parts, add new parts, or strengthen the unstable, dangerous parts.

The radical theory: advocates of this theory

prescribe change in old fabrics, along with protecting valuable cultural monuments from interfering with old urban fabrics. They consider destruction and reconstruction as the only solutions.

The rational theory: the theoretical fundamentals of this group are restored, revival, and conditional reconstruction of old fabrics. On the basis of this theory, Leonardo Benevolo, a professor at the University of Venice, elaborated the different stages of the formation of cities in the history (from the Agricultural

Revolution to the Industrial Revolution) and explained how they were destroyed. He finally concluded that if we intend to protect an old city, we must achieve a new discipline for managing cities. Benevolo maintained that an ancient city should be protected and restored according to a comprehensive plan aimed at improving people's life conditions [23].

Natural environmental studies are essential in urban planning, especially in the improvement and reconstruction. In the improvement and reconstruction of cities, buildings or urban collections must be aligned and coordinated with spatial and temporal conditions. He stresses that improvement and the reconstruction should not be the repetition of the past actions; rather, it should be the continuation and transformation of those measures, as it has been the case during history. Of course, historical memories and cultural heritage must be preserved. It is necessary to train experts, people, and city authorities in urban improvement and reconstruction. In the process of urban improvement and reconstruction, it is necessary to make plans with people's participation, do counseling with specialists, and coordinate authorities with people. Attempts must be made to exhibit historical-cultural values of each historical period in spaces and urban collections, and to support open-space museums. In the urban revival theory, this important issue is the revitalization and revival of some parts of urban areas which lack of common standards of ordinary urban life [22].

4. Materials and Methods

This study evaluated the worn-out fabric of Dogonbadan town.

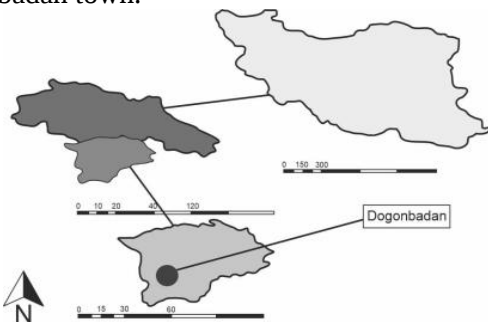


Fig. 1 Introduction of the area under study in the country, province and Gachsaran town

The old fabric of this town is a 164-hectare area defined and introduced by the municipality and the Organization of Roads and Urban Development in the central part of the town (Figures 1-2). This area covers about 9 percent of the urban area of this town (1800 hectares) and contains more than half of the town's traffic [24]-[25].

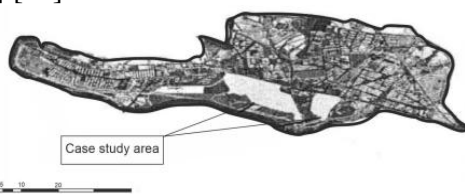


Fig. 2 Map of confines of the worn-out fabric of Dogonbadan town

4.1. Research Hypotheses

A hypothesis is a proven guess or speculation, which is almost certain and by testing and investigating it we can reach the research objectives. Based on what was mentioned in the previous sections, this research has two hypotheses:

The first hypothesis: The financial inability of the residents of these areas has impeded the implementation of plans related to the improvement and reconstruction of the worn-out fabric.

The second hypothesis: The organization and preservation of the old urban fabric requires analysis of the physical structure of the old fabric.

4.2. Methodology

This study is applied research in terms of objectives, and a descriptive-analytical one in terms of methodology. To collect the required data, the study employed documentary investigations and field studies, such as interviews and the use of questionnaires. Considering the research variables, the questionnaire contained 36 items. The first 7 items (1-7) were general and social, 6 of the items (8-13) were economic, and 23 of them (14-36) were physical-spatial questions. The study tests the formal validity and content validity of the questionnaires. For this purpose, the questionnaires are tested in terms of form and content by some professors and specialists in urban planning (especially urban decay). Besides, opinions of students and researchers in fields related to urban planning and urban decay were used to. Some of the questionnaire items were corrected or deleted and some items were added to it. The study employed the Cronbach alpha and SPSS program to determine the reliability of the questionnaires. In so doing, 55 questionnaires were studied and the Cronbach's alpha for all questionnaires was measured at 0.8091. Given that the Cronbach's alpha above 70% shows high reliability of the questionnaires [26], the questionnaires of this study have high reliability. The population comprises the residents of the worn-out fabric of Dogonbadan town. The population of this fabric was estimated to be about 45246 individuals in 2011 [24]. To calculate the sample size of the respondents the Cochran method was employed. According to this method, 380 individuals (Eq. 1) were selected as the sample:

$$n = \frac{\frac{(1/96)^2 (0/5)(0/5)}{(0/05)^2}}{1 + \frac{1}{45246} \left(\frac{(1/96)(0/5)(0/5)}{(0/05)^2} - 1 \right)} = \frac{384}{1/00} = 380 \quad (1)$$

To achieve better results, the sample size needs to be increased to 400 individuals. The sample of the population was selected by the simple random sampling.

After gaining an understanding of the current situation and collecting the required information, this information was analyzed by SPSS and Excel programs with emphasis on their place-space nature and to draw

the maps, GIS Arc was used.

5. Results and Discussion

5.1. Hypothesis Testing

The first hypothesis: The financial inability of the residents of these areas has impeded the implementation of plans related to the improvement and reconstruction of the worn-out fabric.

Pearson test: The Pearson test was employed to measure the variables and test the above hypotheses because the levels of measurement of independent and

dependent variables are (interval-interval). According to the results of this test, the null hypothesis is rejected because Sig (0/000) is lower than the intended alpha (0/05). Also, the correlation coefficient is 0/289 that indicates a direct and relatively high correlation. Therefore, our hypothesis in this regard is proven. Therefore, it could be concluded that there is a correlation between the financial weakness of the residents of the worn-out fabric of Dogonbadan town and the failure to implement improvement and reconstruction plans of Urban Decay. Table 2 illustrates the test results.

Table 2 Results of the coefficient of the Pearson test between the two variables of income and the type of participation

Dependent Independent variable	If the worn-out fabrics are reconstructed, how would you participate in this process (interval)	
Amount of income (interval)	Pearson Correlation Coefficient	(**) 0.289
	Significance level	0/000
	Sum	396

Notes: Correlation is significant at the 0/01 level (2-tailed); ** Source: Field studies

Regression test: This study employed a simple linear regression test to better analyze the relationship between the two variables of financial ability of the residents, and the implementation of improvement and reconstruction of urban decay. As shown in Tables 3 and 4, the results of the analysis of regression variance show that there is a significant correlation between the lack of financial ability of the residents and the residents' participation in the implementation of improvement and reconstruction of worn-out urban

fabric of Dogonbadan Town at a high level of 95% and the significance degree of (sigh=0/0000). This test shows that the correlation between the variable of lack of financial ability of the residents, and the variable related to the residents' participation is 0/237 in total, which is considered a direct correlation with medium intensity. Besides, in total, these variables could account for 5/4 % of the changes (variance) of the dependent variable and other changes of the dependent variable are accounted for by another unknown factor.

Table 3 Accounting for changes depending on financial ability and citizens' participation in improvement and reconstruction of worn-out fabric (Research findings)

Dependent Independent variable	If the worn-out fabrics are reconstructed, how would you participate in this process (interval)	
Amount of income (interval)	Pearson Correlation Coefficient	(**) 0.289
	Significance level	0/000
	Sum	396

Table 4 Variance analysis of the model of regression between the amount of citizens' participation and their financial ability (Research findings)

Different Significance test	Sum of squares	Degree of freedom	Mean of squares	Test statistics	Significance level
Regression effect	26/042	1	26/042	23/513	0/000 ^a
Remainder	436/389	394	1/108		
Sum	462/432	395			

The second hypothesis: the organization and preservation, old the old urban fabric requires analysis of the physical structure of the old fabric.

For this hypothesis, several variables were investigated.

1. The building quality and form change have a relation to the physical

The transformation of the worn-out fabric of Dogonbadan town. The univariate Chi-square test was employed to investigate the above hypothesis.

Table 5 The output of univariate Chi square for investigating building quality

Index					Degree of freedom	Chi square	Significance level
	Newly	Maintainable	Repaired	Dilapidated			
Building quality	17	58	94	231	3	258/500	0/000

As shown in the above table, of the 400 studied residential units in the worn-out fabric of Dogonbadan

town, 231 were dilapidated, 94 were repaired, 58 were maintainable, and 17 were newly built. The amount of

univariate Chi square with the degree of freedom of 3 equals 258/500 with a significance level 0/0000, which indicates a totally significant relationship.

2. The types of building materials and changes

have a relation to form changes and physical transformation of the worn-out fabric of Dogonbadan town.

Table 6 The output of univariate Chi square for investigating the type of building construction (Field studies)

Index					Degree of freedom	Chi square	Significance level
	Newly	Maintainable	Repaired	Dilapidated			
Building quality	17	58	94	231	3	258/500	0/000

According to the above table, of the 400 studied residential units located in the worn-out fabric of Dogonbadan town, TV units were made of stone and cement, 79 were made of the completely non-resistant stone and chalk materials, 48 were made of joist and blocks, and 44 were made of bricks and iron. The univariate Chi square with a freedom degree of 4 equaled 321/425 with a significance level 0/000 which, which indicates a completely significant relationship. Therefore, our second hypothesis is confirmed, too.

6. Conclusions and Suggestions

6.1. Conclusions

An instance of current changes in Iranian cities is the physical, social, and economic decline of old parts and worn-out, problematic urban fabrics within cities which are faced with numerous problems due to internal and external factors and have become old and worn-out over time. The decay of urban fabrics over time must be investigated in the process of the country's urbanization and urban development.

The findings of the research indicate that in the test of the first hypothesis, the economic dimension of residential areas is primarily important in consolidating the physical-spatial structure of the urban fabric, so that the amount of financial ability of the residents in the reconstruction and improvement of the building in a convergent whole can be somehow effective in urban regeneration based on a coordinated urban design plan. From one perspective, the economic dimension is a certain driver and a platform for creating social interactions and it plays an important role in creating cultural actions among the residents of the new generation, so that the younger generation, by staying in the fabric, prevents its social decay and the sustainability of social life. Guarantee on this basis, the second hypothesis is also based on the principle that the organization of urban contexts requires a holistic approach in the physical structure of the city, which can somehow bring the old context into the path of urban regeneration, thus the quality of the built buildings and the change of the urban form. Based on urban planning standards and modern architecture, it guarantees the efficiency of the neighborhood in terms of urban form. This change is still carried out based on high-level plans, but no specific preferential plan emphasizes the regeneration of worn-out urban areas

with the intervention of reconstruction and improvement, and in a period of 5-10 years, it can develop a sustainable form, considering normal resilience.

In the hypothesis testing section, it was shown that there is a significant correlation between the lack of financial ability of the residents and failure to implement the plans of improvement and

Reconstruction of worn-out fabric. As long as the financial problems of the residents of such areas are not solved and new strategies are not adopted to provide the financial resources by considering the benefits of the residents, we could not expect the improvement of reconstruction of worn-out fabrics in this town. (Correlation coefficient -0/205) and significance level (0/000) and the analysis of the physical structure of the old fabric influences the organizations and protection of old and worn-out fabric.

1. The quality of the buildings is an influential factor in changing the form and morphology and physical transformation of the worn-out fabric of Dogonbadan (with freedom degree of 3, Chi square of 258/500, and significance level of 0/000). Also, the materials used in the construction of the buildings are a factor influencing the changes in the form and morphology and physical transformation of the worn-out fabric of Dogonbadan (with a freedom degree of 4, Chi square of 321/425, and significance level of 0/000). Regarding the processes, effective in changing the form and morphology and the physical transformation of the town's worn-out fabric, besides what was confirmed through the hypothesis testing, the findings reveal that the worn-out fabric of the town is transformed over time by some other processes and undergoes physical decay. These processes are briefly listed as follows:

a. Diminution in the sense of belonging to this fabric, especially among youth and the nonnative immigrants of the fabric.

b. The diminution of the importance of the environment for a social and cultural perspective.

c. High construction costs, especially in the center of the fabric.

d. The contrast of the old and new fabrics, which has led to the heterogeneity of the town's appearance.

e. The low price and value of land in most of the town's worn-out fabric.

This improvement is not only the responsibility of the residents of the neighborhoods and citizens, but the upstream plans and the implementation of local plans

with the main government budgets are the most important factors in revitalizing the worn-out urban fabric. However, compliance with the rules of urban renewal and reconstruction, which is carried out by institutions similar to municipalities and supervisions, is done in a way that it is more established in the urban context of Dogonbadan, and it also has the necessary architectural standards and fits in the urban form. And they don't have therapeutic compatibility. The type of municipal density and the lack of compliance by some institutions, as well as the basic difference in the skyline and the quality of the materials, practically take the residential areas to another side of physical and cognitive decay.

6.2. Offering Functional Strategies and Suggestions to Be Carried Out in the Worn-Out Area under Study

- Developing improvement and reconstruction plans for the town's worn-out fabric. The interest of the residents in social participation in developing such plans helps the success of the plans and projects.
- The existence of open spaces around the worn-out fabric has the potential for creating landscapes, cultural, sports, and recreational centers, parking lots, etc, in the fabric facing an extreme shortage of such facilities. This will help the improvement and reconstruction of the worn-out fabric of Dogonbadan town, too.
- The relatively young population of the fabric could serve as a strong support for its improvement and reconstruction, especially because the young population provides an opportunity to improve the culture and help the process of urban development in this fabric. Also, attempts must be made to establish opportunities for employing unemployed people – most of whom are young people- in the surrounding areas.
- Fostering diversity in the existing facilities and services to satisfy employees and attract the rich to the fabric and change people's negative attitudes toward living in this part of the city.
- Paying attention to the cooperation of different people and using different opinions to improve and reconstruct the town's worn-out fabric. Considering tax discounts and charges to encourage people to obey the law during the construction of the worn-out fabric.
- Creating various supportive mechanisms and providing various investment opportunities to attract investors to the fabric considering the fabric's ability to return the capital.
- Establishing an institution responsible for worn-out urban fabrics independently is a strong point, which could greatly aid the improvement and reconstruction of the worn-out fabrics.

6.3. Research Limitations

According to the findings and results of the research,

the main limitation is focused on the procedural structure, it is impossible to achieve the totality of the causes of attrition by evaluating the internal factors as a product, but the way of implementing local and upstream plans and testing its success rate. Also, be done in an urban fabric. In this regard, comparing the results obtained from the efficiency of these types of designs with field surveys in the field of fabric can provide a more accurate result. For this reason, the main obstacle to conducting this type of research is the lack of access to documents and the way the process is carried out by government institutions and municipalities. But simultaneously, by using this method, it is possible to indirectly find the causes of the decay of the urban fabric from its substantive dimension, which can be a strong point of the pragmatism attitude in the main issue.

6.4. Future Research

To conduct future research, we can mention some things that will be effective in evaluating the content in addition to the procedural aspect.

- 1) Creating the possibility of bottom-up and top-down evaluation of local plans based on the urban regeneration plan by examining and analyzing the reverse engineering of its proposed process.
- 2) Evaluating other influencing factors such as functional and perceptual dimensions as the main variables of the research by using the proposed models and testing them.
- 3) Using the initially proposed model and performing the Delphi method in it, including the extraction of paired variables and performing the ANP analytical method and performing the ranking structure to arrange the positive amount of each tissue.

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