A Novel Public-Private-People Partnership Framework in Regeneration of Old Urban Neighborhoods in Iran

**Abstract:** 

Urban area regeneration is a matter of every municipality over time. Regeneration projects are usually cost-intensive and directly affect many vulnerable members of society. Public-privatepeople partnership (PPPP) is one of the adopted methods by various municipalities in these projects. Multiple players with different backgrounds and uncertainties involved complicate the development process of PPPP projects. A carefully designed framework is required to successfully deliver these projects. This research develops a holistic PPPP framework for the old urban neighborhood regeneration projects in Iran. The collective experience of urban area regeneration projects from the literature and field experts is employed in the proposed framework. The framework outlines the requirements of the feasibility study that the government needs to perform in the initial stages of the projects. Three standard form contracts designed in the framework adjust the stakeholders' relations over the project's life cycle. The field experts verified the capabilities of the framework and found it beneficial for future urban regeneration projects in the country. Although the identified issues are addressed in the proposed framework, prospective implementations of the framework need to be closely viewed to identify possible points of improvement.

**Keywords:** Urban Development; Regeneration; Old Neighborhood; Land-use; Iran

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#### 1-Introduction

Old urban neighborhoods are among the main issues for urban resilience and economic growth in Iran. Being in a high-seismic zone has increased the vulnerability of old urban neighborhoods in the country. Extensive damage and numerous casualties repeatedly have been reported in the country's earthquakes during recent decades due to the old and inefficient buildings (Ghafory-Ashtiany and Hosseini 2008; Hirayama 2000; Hisada and Shibaya 2004). Old neighborhood residents experience a low quality of life even during regular daily life. Many social problems in the country are linked to the old neighborhood residents (Uysal 2012; Zhang et al. 2020). The renewal of these areas not only improves the resilience of the neighborhoods during natural disasters but also improves the residents' quality of life and decreases the number of crimes in society.

The poor economic and social conditions of many old neighborhood residents prevent them to directly renovate their buildings. The extensive spread of the old neighborhood also does not let the government directly provide all the required fund (Erfani 2018). Therefore, attracting private investors and self-funded developers is necessary. Nevertheless, many old neighborhood regeneration projects conducted in partnerships with private investors have failed and resulted in contractual issues and claims (e.g. Ball and Maginn 2005; Kokx and van Kempen 2009; Roberts and Sykes 1999). In many cases these partnerships resulted in a simple renovation of the old buildings, leaving the existing inefficiencies untouched (Karaman 2012; Meegan and Mitchell 2001). Active involvement of the government to regulate, facilitate, or even subsidize the urban regeneration projects to form a public-private-people partnership (PPPP) is the prospective solution.

The PPPP in old urban neighborhood regeneration projects requires a thoroughly thought framework to meet the project's needs and address the challenges and complexities involved. The extensive literature review and the field survey performed in this research revealed that this framework is missing in Iran. To address the identified gap, this research proposes a novel PPPP framework to overcome the existing issues in the development of old urban neighborhoods in the country. The proposed framework is based on the effective regulations in the country and responds to the challenges identified in the literature and extracted from the extensive field studies.

### 2- Research method

The current study is conducted in six stages. First, old urban neighborhood regeneration research in Iran and different countries in the world were reviewed. In this stage, the adopted old urban neighborhood regeneration methods and the challenges faced during the old urban neighborhood regeneration projects were identified. The second stage was performed in parallel to the first stage to review the related regulations to identify the legal capacities. Here, regulations passed by the parliament, cabinet, ministry of road and urban development, and major city councils were studied and assessed. The identified challenges from the literature review stage were summarized and categorized in the third stage. These categorized challenges formed the main basis for the field studies performed in the fourth stage of the research. In the fourth stage, the main stakeholders, including eleven different organizations and entities, were identified and interviewed. Furthermore, an urban neighborhood regeneration project case was observed. Here, particular challenges to the old neighborhood regeneration projects of Iran were identified. The proposed solutions to the identified challenges were also collected. In the fifth stage, a PPPP framework for old urban neighborhood regeneration was proposed. The proposed framework was designed to

properly address the identified challenges. Finally, the face validity approach (Holden, 2010) was adopted to validate the proposed framework. Figure 1 demonstrates the different stages taken in the research. Further explanations regarding each stage are provided in the related sections.

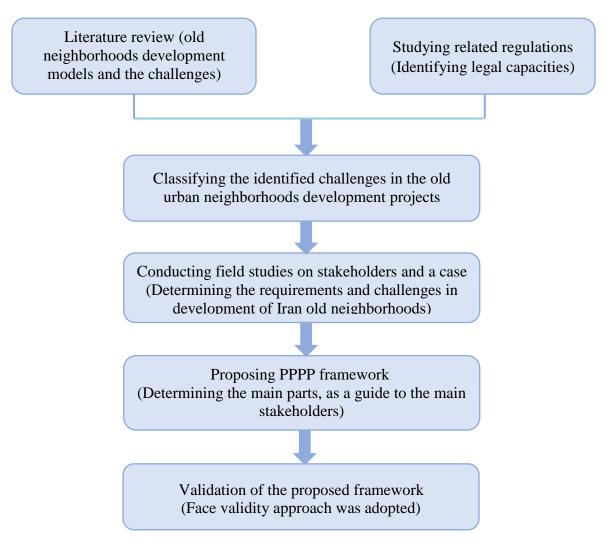


Figure 1. An overview of the research stages

# 3- Old urban area regeneration across the world

One of the first reported land regeneration programs is the land readjustment program followed in Japan since the late 19th and early 20th centuries (De Souza et al. 2018). Land Readjustment Law

of 1954 in Japan created a robust foundation for urban regeneration projects. In this law, the relations between different stakeholders, including the public sector, private sector, and landowners, as well as land readjustment procedures, were clearly outlined. Identified gaps were gradually addressed in the law. After the successful implementation of the land readjustment program in Japan, this approach was adopted in other countries such as Finland, Brazil, India, Sweden, and the Netherlands.

The area-based initiative (ABI) program issued in the 1970s was the first coordinated regeneration program in the UK (Lawless 2004). In the ABI a significant role was given to the communities. Giving the main responsibility to the communities, consisting of a variety of members with different knowledge and financial background, prolonged the regeneration process of old neighborhoods. The sustainable communities program launched in 2003 tried to respond to the occurred shortfalls. It was designed to concurrently address physical, environmental, and social concerns in the regeneration projects (Tallon 2013). The policies set for urban neighborhood regeneration projects in the UK worked in some neighborhoods and failed in some others (Tallon 2013). The capacities of each neighborhood and its interactions with other parts of the city yet need to be captured in the future urban regeneration programs in the UK (Tallon 2013).

The lack of housing in the post-war population boom in 1959 led to an effective urban governance system in Singapore. New responsibilities formed new departments to organize housing development programs and agencies, including the housing and development board and the planning department (Amirtahmasebi et al. 2016). Financing and budgeting the project was a whole-of-government approach from a wide range of revenues, including direct and indirect taxes, licenses, permits, and fees. Singapore followed a balancing economic, social, and environmental

development approach within a land-scarce context (Amirtahmasebi et al. 2016). The long-term planning horizon, effective plan execution, being market-driven, and the political will and support were the main elements of this successful experience (Yeoh and Huang 1996; Lum et al. 2004; Amirtahmasebi et al. 2016).

In 1988, the Land Development Corporation (LDC) was established by the British administration in Hong Kong as the legal entity in charge of old neighborhood regeneration (Adams and Hastings 2001). Many urban neighborhood development projects managed by LDC faced delays and resulted in single buildings renovation rather than the regeneration of the entire neighborhood (Adams and Hastings 2001). Existing constraints in the multiple land ownership, under-estimating the required resources and tools, and copying the development method from Britain without considering the particular limitations of Hong Kong were among the main causes of the created issues (Adams and Hastings 2001; Hui, Ng, and Lo 2011).

South Korea has suffered an urban decline in recent years causing serious damages to the country. Deteriorated infrastructures and amenities, job position shortages, and financial resource issues are the results of this decline (Kim and Jang 2017; Lee and Lim 2018). The government of South Korea launched Special Act for sustainable urban regeneration in 2013 to respond to the urban decline issue (Lee and Lim 2018; Cho et al. 2020). This Act introduced two types of urban regeneration projects, including urban economy-based regeneration and community-based regeneration (Lee and Lim 2018). The former constitutes large-scale regeneration projects and pushes on new economic functions to expand employment opportunities. The latter, however, focuses on the limited areas and the revitalization of the local businesses and residences. Many regeneration projects have been implemented based on the Special Act resulting in both successful

and unsuccessful cases (Kim and Jang 2017). Lee and Lim (2018) analyzed the performance of the two types and found the economic-based regeneration projects more effective than the community-based projects for the current urban condition of South Korea.

The public-private partnership (PPP) for urban regeneration in East Germany failed to achieve its main goals after independence from the Soviet Union. The shrinking population of urban areas in East Germany in the 1990s and 2000s caused a low housing demand, and significantly dropped the revenue of real estate businesses (Bernt 2009). This issue caused the government to intervene and create a partnership with the private sector by providing funds and subsidies for renovation projects (Bernt 2009). An unbalanced partnership agreement in the favor of the demolition phase of building construction projects and equally regulating the partnership in different parts of the projects left many partnerships incomplete shortly after the demolition (Bernt 2009).

The old urban neighborhood redevelopment project implemented in the 1990s in Washington DC, USA, was a successful regeneration case. The project was benefited from political will and support. It consisted of five chapters, including the transformation of the public realm, reconstruction of transportation infrastructure, improvement of environmental conditions, economic development, and introduction of new cultural institutions (Amirtahmasebi et al. 2016). The project was financed through various sources, including tax increment financing, pilot bonds, and federal grants. The most important reasons for this project's success were understanding the basics of market position, land ownership, integrated framework and approach, managing expectations of residents, and leveraging public and private resources (Jayarajah et al. 1996; Wegmann and Jiao 2017).

The renovation of the Basibuyuk old neighborhood in Istanbul, Turkey, is an example of social problems created in urban regeneration projects. In this project, the residents were reluctant to move to new small apartments and the monthly dues were unaffordable for them. The dissatisfaction led to a state that people blocked the truck's passage and suspended the project implementation. Eventually, trusted individuals were employed to manage public opinion and convince the residents to move during the renovation process (Karaman 2012). In another urban neighborhood development example in Ankara, Turkey, urban sustainability aspects such as public transportation, energy efficiency, waste management, and urban green space creation were noticeable (Korkmaz and Balaban 2020). Using comments from urban planners, architectures, and social, economic, and environmental experts positively contributed to the project. Besides, the partnership of all of the stakeholders was found critical for the project (Korkmaz and Balaban 2020).

Table 1 highlights the main characteristics and achievements of the studied old urban area regeneration cases. In sum, performing socially, economically and environmentally sustainable projects were common desires of the past urban area regeneration projects. Urban regeneration projects are complex and their successful implementation requires thoroughly thought models. Community engagement, market dynamics, governmental funds, and financial resources were identified as the key influential factors to the urban regeneration projects success by many researchers. Specific social, economic, cultural, and legal conditions of every neighborhood determine the proper structure of urban regeneration projects. Therefore, before proposing a model for the regeneration of old urban areas in Iran, the current condition of the country must be carefully visited.

Table 1- Main characteristics and achievements of the studied regeneration cases in different countries

Case study	Main Characteristics	Achieved results
Land readjustment program-Japan	<ul><li>✓ Properly defined stakeholders' relation in regeneration projects</li><li>✓ Identified gaps and gradual improvement</li></ul>	✓ The successful results achieved in this program attracted different countries to follow a similar approach
Area-based initiative program-UK	<ul> <li>✓ A significant role was given to the communities</li> <li>✓ Concurrently addressed physical, environmental, and social concerns</li> <li>✓ Ignored differences in neighborhood potentials and capacities</li> </ul>	✓ Successfully worked in some neighborhoods and failed in some others
Housing development program-Singapore	<ul> <li>✓ Formed a new department to organize housing development programs</li> <li>✓ Government-funded the project through a wide range of methods</li> <li>✓ A balanced economic, social and environmental approach was followed within a land-scarce context</li> <li>✓ A long-term and market-driven planning approach was adopted</li> <li>✓ The government fully supported the program</li> </ul>	✓ This program was successfully implemented
Establishment of the Land Development Corporation (LDC)- Hong Kong	<ul> <li>✓ Implemented Britain's approach without considering Hong Kon's conditions and limitations</li> <li>✓ Under-estimated the required resources</li> </ul>	✓ This case was not successful ✓ Many projects were delayed
Special Act for sustainable urban regeneration-South Korea	<ul> <li>✓ The Act includes urban economy-based and community-based regeneration</li> <li>✓ Projects are distinguished based on their scales and goals</li> <li>✓ Employment opportunities were expanded in large regeneration projects</li> <li>✓ Local businesses and communities were revitalized in limited regeneration projects</li> </ul>	<ul> <li>✓ This resulted in both successful and unsuccessful cases</li> <li>✓ The economic-based regeneration projects were more effective than the community-based projects</li> </ul>
The public-private partnership (PPP) for urban regeneration in East Germany	<ul> <li>✓ The government provided funds and subsidies for renovation projects</li> <li>✓ The partnership was regulated equally in different parts</li> </ul>	<ul> <li>✓ The partnership agreement was unbalanced in favor of the demolition phase of projects and many projects were left in this phase</li> <li>✓ Failed to achieve project main goals</li> </ul>
Urban neighborhood redevelopment project in Washington DC (USA)	✓ Considered different aspects of urban development ✓ Used various sources to finance the project ✓ Leveraged public and private resources	✓This project was successfully implemented
Renovation of the Basibuyuk old neighborhood in Istanbul(Turkey)	✓ Lack of attention to the residents' concerns	✓ Residents were reluctant to move to new small apartments ✓ The monthly dues were unaffordable ✓ Residents suspended the project implementation
Urban neighborhood development in Ankara (Turkey)	<ul> <li>✓ Paid attention to different aspects of sustainable urban development</li> <li>✓ Used the expert opinions</li> <li>✓ Partnered different main stakeholders</li> </ul>	✓ This project was successfully implemented

# 4- Old area regeneration in Iran

Currently, approximately 2700 densely populated old and inefficient neighborhoods are identified in Iran. Various old urban renovation projects have been undertaken in different parts of the country in recent decades. Tehran, the capital and the largest city in the country with 3000 hectares of old and inefficient areas, is located in the high-risk earthquake zone. Renovation and regeneration projects are essential in the city (Erfani 2018). The government has passed new regulations and has set incentive packages to facilitate the regeneration projects and respond to this critical need in the country. The trace of past experiences, however, does not represent a successful trend. In this section, first, the current condition of the regulations in the country is outlined. Then, the old area regeneration projects in the country are reviewed and the observed challenges are outlined. Finally, the current condition of the old area regeneration process in the country is discussed.

# **4-1- Regulations**

The main related regulations to the old urban neighborhood regeneration in the country include:

1) organizing and supporting housing production and supply (Islamic Parliament of Iran 2008), 2) protection of rehabilitation of old urban neighborhood (Islamic Parliament of Iran 2011a), 3) the fifth development plan of Iran (Islamic Parliament of Iran 2011b), 4) the sixth development plan of Iran (Islamic Parliament of Iran 2017), 5) the budget bills for 2019 (Planning and Budget Organization 2018) and 2020 (Planning and Budget Organization 2019), 6) National Strategic Document for the Rehabilitation, Renovation, and Empowerment of Old Neighborhoods (Cabinet of Ministers 2014), and 7) Approval Letter for Determining the National Strategic Document for the Rehabilitation, Renovation, and Empowerment of Old Neighborhoods (Cabinet of Ministers

2016). Several draft guidelines, instructions, and forms concerning the development of old neighborhoods were also found in the ministry of road and urbanization. No published regulation or instruction was found in the major city councils. Regardless of the high number of regulations, none of them outline a comprehensive framework for the old urban area regeneration process. The regulations are disconnected and do not complement each other. The main regeneration tools repetitively seen in these regulations are the monetary incentives and subsidies, including low-rate loans, legal fee waivers, and discounts on the utility deposit and connection fees. Appendix 1 presents a summary of these regulations.

# 4-2- Old area regeneration projects

The most extensive urban regeneration project was the Navvab neighborhood project in 800 hectares started in 1994. It was administrated by the City of Tehran in partnership with the residents (Bahrainy and Aminzadeh 2007). This old neighborhood was crossing the main north-south highway in the city that was the main motivation of the project definition and execution (Andalib et al. 2012). New low-cost apartments were mass-produced for accommodating 260000 population by increasing the land-use density. No comprehensive feasibility study was conducted to justify the project and the project was prolonged due to multiple issues during its implementation. The City of Tehran issued bonds and pre-sold additional residential, commercial, and office units to fund a part of the project. The project's financial problem resulted in changing the functions of many places, such as cultural and educational centers and green spaces to earn new financial sources. Furthermore, the municipality was forced to use the government fund. This project destroyed the integrity of the neighborhood and did not improve the residents' access to municipal facilities as was planned at the early stages of the project. Moreover, the resulting air

and noise pollution from the built highway created a quite unpleasant environment for many residential complexes next to the highway. Many previous residents were dissatisfied with the result and never returned to this neighborhood (Bahrainy and Aminzadeh 2007).

Another project in Tehran is the regeneration of the Oudlajan bazaar, a traditional historically valuable market in district 12 of Tehran (Erfani and Roe 2020). In the regeneration project of the bazaar in 2012 a tripartite agreement between the municipality and the Cultural Heritage Organization, as public parties, and shop owners, as private parties, was signed. Also, a consulting company was selected to coordinate the different partners and provide the development plan. The project was suspended multiple times due to the change in the public parties, and political and financial issues (Erfani 2018)

The renewal of the Takhti neighborhood with low-income residents in district 12 of Tehran is another example (Erfani and Roe 2020). This project began in 2012 with an 85-hectare area and a population of 22000. The municipality administrated the project and used the partnership method with the owners. This project was prolonged due to many issues during its implementation. Small residential areas and long and narrow passages complicated the neighborhood development. Low land prices caused the construction cost to surpass the land share of the residents and make the project financially unfeasible. Another challenge was the residents' distrust of the municipality which made obtaining the owners' consent to participate in the project quite time-consuming. To date (mid-2020), a large portion of the project has been completed. However, some parts have remained incomplete.

In 1992 government initiated the Samen project in the Samen neighborhood, Mashad, in a 366-hectare area (Forouhar and Hasankhani 2018). This project aimed to improve the quality of

residents' life, the services provided to the religious tourists, the neighborhood's streets and passages, and access to the key religious, commercial, and recreational elements in the neighborhood. Inadequate financial resources became a critical issue in the project. Therefore, new investors were attracted. The participation of new investors changed different parts of the initial plan. Many services and infrastructure elements were replaced with commercial buildings to increase the profitability of the project. The municipality suspended all repair, renovation, and buy and sell licenses in the neighborhood to compel the residents to sell their properties. This approach extremely decreased the price of land in the neighborhood and harmed the small landowners. Other major problems include missing proper alternate routes during the construction period, damaging small businesses by building large commercial shopping centers, poor urban furniture, and air and noise pollution.

Isfahan is a major city located in central Iran. Old and historical parts of the city required renovation due to inadequate urban services, narrow passages, traffic congestion, and poor access to historical places (Assari 2012). An urban regeneration project in Isfahan was the historically renowned Imam Ali square neighborhood in a 23-hectare area that started in 2010 (Seyedashrafi et al. 2017). This project aimed to regenerate the cultural and historical context of the square, the surrounding residential neighborhoods, the infrastructures, and the roads. The challenges lied ahead of the project were the financial issues, evacuating the residents, the presence of historical monuments, and the land acquisition. The municipality rushed the project commence before local businesses evacuated the project site and caused severe damage to the businesses (Nourian and Ariana 2012). This project is still (in mid-2020) ongoing and its final results are not available.

# 4-3- Identified challenges in the literature

Various challenges identified in the old area regeneration literature in Iran could be classified into four categories, including 1) legal, 2) financial, 3) social, and 4) executive. Following, each classification is explained.

Legal challenges: Inconsistent regulations and the bureaucratic process are two critical issues in urban regeneration projects. Legal issues in merging existing small plots in old neighborhoods into big plots have also prolonged the process in some cases (Erfani 2018; Erfani and Roe 2020; Ghanaee and Pourezzat 2013). Many old neighborhoods are near ancient and historical locations. Strict regulations to avoid possible damages to the ancient and historical locations are other challenges in pursuing the development of the old neighborhoods (Assari and Assari 2012). The presence of conserved or endowment lands in the neighborhood also requires another set of regulations to deal with which can prolong the development process (Sharifi and Murayama 2013). Financial challenges: One of the critical challenges in old urban neighborhood regeneration projects is the project's fund. Due to the large scale and scope of the regeneration projects, governments fail to directly fund these projects from their budget (Bahrainy and Aminzadeh 2007; Erfani 2018; Nourian and Ariana 2012). The use of multiple financial sources, however, prolongs the duration of the project and increases the project risk and complexity (Bahrainy and Aminzadeh 2007). Adding new investors, with particular types of interests, to the project can affect the initial settings and deflect the project from the original goals (Bahrainy and Aminzadeh 2007; Forouhar and Hasankhani 2018). The low price of land in many old neighborhoods does not financially justify new investments and complicates the development of the neighborhood (Assari and Assari 2012; Erfani 2018; Erfani and Roe 2020).

**Social challenges:** Residents of different old neighborhoods have different cultural, social, and financial backgrounds. The existing diversity necessitates different development approaches and

well-thought methods of government involvement in the regeneration projects. Inadequate approaches used by the government have caused dissatisfaction and have created high resistance from the residence (Bahrainy and Aminzadeh 2007; Nourian and Ariana 2012). The dissatisfaction of the residents with many projects has caused the residents to abandon the renovated neighborhood forever (Bahrainy and Aminzadeh 2007; Forouhar and Hasankhani 2018). Social values have been neglected in many urban regeneration projects. The historical identity of many neighborhoods has been violated or damaged during the renovation.

Executive challenges: Execution of old urban neighborhood regeneration projects in many cases were not followed based on organized and pre-planned approaches. In some cases, no robust feasibility study was done before the projects start (Bahrainy and Aminzadeh 2007). In many cases, the owners and residents did not get involved in the decision-making, planning, and preparation processes (Bahrainy and Aminzadeh 2007). Improper interaction and cooperation between different stakeholders have created many problems in the projects (Ghanaee and Pourezzat 2013). Furthermore, managers' instability, ambiguous decision-making processes, wrong decisions, and discrepancy in different levels of management are other issues encountered in the urban regeneration projects (Bahrainy and Aminzadeh 2007; Erfani 2018; Erfani and Roe 2020). Poor implementation of public services and infrastructures is also the case in some other neighborhoods (Assari 2012; Erfani and Roe 2020; Forouhar and Hasankhani 2018). Displacement of urban facilities is another problem faced in these projects (Nourian and Ariana 2012).

#### 4-4- Analysis of the literature

The lack of a robust and coordinated approach for old urban neighborhood regeneration projects has caused repeating deficiencies and challenges in different regeneration projects in the country.

The repeating issues and the government's weakness in fulfilling its promises in old urban neighborhood regeneration projects have caused distrust between the residents and the government (Bahrainy and Aminzadeh 2007). The old neighborhood regeneration projects in the country lack a robust framework to structure efforts made by different stakeholders and to avoid a repeat of the identified challenges in these projects. Therefore, the main objective of this research was set to propose a robust framework to frame the required efforts of different stakeholders during the implementation of old urban neighborhood regeneration projects. The proposed framework needs to outline the proper project delivery method and regulate high-level interactions between different stakeholders during urban regeneration projects in Iran.

# 5- Field Study

Field studies on different stakeholders and a case study were performed in the research. First, the case study of the Sirus neighborhood in South East Terhna was conducted to directly observe and deepen the research team's knowledge regarding the existing challenges. Then, main stakeholders were identified in an iterative approach to use their collective experiences for addressing the existing challenges in the regeneration projects in the country. The identified challenges were used as inputs in the stakeholder interviews to extract their proposed solutions.

# 5-1- The case study of Sirus neighborhood

The research team observed an in-progress regeneration project case in the Sirus neighborhood, South East Tehran. In this regeneration project, the government was directly entered the regeneration project by acquiring ownership of the neighborhood's lands. The government, then, followed a public-private partnership model for the regeneration of the neighborhood. The low value of the land owned by the government in this neighborhood decreased the government's share in the regeneration project to 20%, compared to the 80% share of the private investor. This standing

made the project economically infeasible for the government side and consumed a significant portion of the government's budget. Furthermore, most previous residents left the neighborhood after conceding their land to the government and denied returning to the neighborhood and reside in the completed buildings. As a result, this project was not assumed a successful regeneration case for the government. At the time of conducted case study, the government was about to change its adopted approach and reduce its role from an owner to the regulatory body. The performed case study affirmed some of the reported challenges in the literature as presented and discussed in Sections "4-3- Identified challenges in the literature" and "4-4- Analysis of the literature".

# 5-2- Identifying main stakeholders

33 stakeholders cited in the past urban neighborhood regeneration projects in the country were used to create a longlist, as represented in Appendix 2. The stakeholders on the list were categorized into three groups, including 1) Public, 2) Private, and 3) People. The focus of this research was on the regeneration of the formal old residential buildings in urban neighborhoods. Therefore, the longlist was used as a guideline for creating the initial shortlist of the major contributors to the regeneration process of formal old residential buildings in urban neighborhoods. Three experienced experts involved in the old urban neighborhood projects were consulted to prepare the initial shortlist. These experts had more than 10 years of experience in the regeneration of old urban areas in different organizations, including the Ministry of Roads and Urban Development, Tehran City Renovation Organization, and a building construction company. The prepared shortlist in this stage was not supposed as a final list of main stakeholders. During the interviews, performed based on the initially shortlisted stakeholders, the research team presented the list to the interviewees and asked them to name any missing main stakeholders on the list. As

a result, the initial shortlist was gradually completed while the field studies were performed. Table 2 presents the final short-listed stakeholders.

Table 2. The main stakeholders identified for field study in old neighborhoods

Stakeholder group	Stakeholders
	Ministry of Roads and Urban Development
	Planning and Budget Organization
	District Municipalities
<b>Public Sector</b>	Tehran City Renovation Organization
	Endowment Organization
	Municipal Investment and Public Participation Organization
	Stock Exchange and Securities Organization
Private Sector	Investors
	Contractors
People	Residents of old neighborhoods
	Local councils

# 5-3- The performed survey

Before performing interviews with each stakeholder, related departments and individuals were identified and contacted. The semi-structured interview method was adopted in the interviews. In each public organization, multiple interviews were performed with the managerial levels and experienced specialists. Interviews were set with the management team of four well-known construction and investing companies active in the regeneration projects. Three local councils were also interviewed to extract their collective experiences regarding the residents' issues.

The challenges identified in the literature review were presented to each interviewee as an initial list. The interviewees were asked to explain their experiences regarding each challenge and indicate any other challenges they have faced. Newly identified challenges were added to the list of challenges for upcoming interviews. Stakeholders were also asked to suggest possible solutions. After individual interviews with different stakeholders, a group meeting with all stakeholders was organized to present, discuss, refine, and conclude the achieved results.

The refined lists of identified challenges and proposed solutions from different stakeholders were divided into financial, social, contractual/legal, and executive categories. The achieved results

were analyzed and cross-checked with the achieved results from the literature. The performed survey from different stakeholders and the direct observation of a regeneration project in Tehran affirmed the absence of a pre-planned framework followed by the authorities in the regeneration projects in the country. Stakeholders confirmed the reported distrust in the literature between old neighborhood residents and the government as a result of previous unsuccessful experiences. It was also found that the monetary incentives, including low-rate loans, legal fee reductions, and reductions in the utility fee were partially granted to the regeneration projects, depending on the local and central government's budget. The refined lists of identified challenges and the proposed solutions in the field study are presented in Tables 3 and 4. It should be noted that not necessarily stakeholders were aware of the possible solutions for every challenge they faced. As a result, Table 3 lists more challenges than the solutions listed in Table 4.

Table 3. Identified challenges in the field study process

cial	Temporary housing is required for the residence  Distrust formed between the residents and the government because of the government's misconduct  A small number of professional developers exist  Lack of security in the neighborhood  Reduced public services, such as clinics, parks, and standard passages  Drugs  Inconsistent development, e.g., old and renovated buildings exist next to each other.  Property registration issues.
	Distrust formed between the residents and the government because of the government's misconduct  A small number of professional developers exist  Lack of security in the neighborhood  Reduced public services, such as clinics, parks, and standard passages  Drugs  Inconsistent development, e.g., old and renovated buildings exist next to each
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ecutive	Distrust formed between the residents and the government because of the government's misconduct  A small number of professional developers exist
ecutive	Distrust formed between the residents and the government because of the government's misconduct
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	Language and way to a state of the angle of the state of the angle day and
gal	Failure of public organizations to fulfill their contractual obligations
ontractual/	Cumbersome and bureaucratic government contractual model
	Lack of liquidity and working capital
	High interest rates on renovation loans
Financial	infrastructures  High interest rates on reposition loans
	The desire to invest in the border areas requires a low investment in the
	The desire to develop large pieces of land to reduce overhead costs
	A low rate of investment return is a disincentive
	Small plots add the number of stakeholders (residents) and complicate the issue
Executive	Divergence of different stakeholders' goals and priorities in the project
	Too many stakeholders are involved
	A small number of private investors
	Prolonged process
	Lower quality of the built houses than the resident's expectation
	project certificate of project completion from the municipality
	The developers did not meet the municipality codes and could not receive the
cial	Security issues in the old neighborhoods
• 1	Migration of the residents after the renewal
	in the public sector.
	inability of the public sector to fulfill its commitments and management change
.p	Many claims have been raised due to the damages made to the residents, the
mtractuai/ gal	specific set of regulations and complicates the development process
ontractual/	The presence of conserved or endowment lands in the neighborhood requires a
	In most old area developments, the government has owned the land and then has developed the area using the private developers as contractors, not the investors.
	No contract models exist for the PPPP development model  In most old error developments, the government has owned the land and then has
	Too many disincentives barriers for the investment
	Large fluctuations in construction cost  Too many disingentives harriers for the investment
	Failure of the government to provide low-interest loans
	Some plots are shifted into the roads and passages
rmanciai	project
nancial	The right of way price drastically increases in many neighborhoods during the
	profitable
	The low price of land in many neighborhoods makes the investment non-
	The surety bond condition
	Lack of a systematic financial model

Table 4. Proposed solutions received from different stakeholders

		Reducing non-operational costs (including permits, environmental fees, taxes, etc.)	
Governmental (Public Sector)	Financial	Providing low-interest mortgage and load	
		Offering grants for grouping several small houses	
	Contractual/ Legal	Construction permits to be issued only for the selected developed in the neighborhood	
		Facilitating the legal process of merging small plots	
		Setting new regulations to allow merging small endowed plots with	
		the adjacent non-endowed plots	
	Financial	Increasing building density	
Developers (Private Sector)		Providing low-interest loan	
		Establishing a land and housing fund and selling the shares to the	
		small investors.	
	Contractual/ Legal	Facilitating ownership transfer of the plots that their owners do not	
		agree to participate in without justified reasons.	
	Executive	Providing suitable temporary housings for the residents.	
Residents (people)	Social	Construction of residential complexes with security guards to enhance the security of the residents.	

# 6- PPPP framework for old urban neighborhood development

The proposed PPPP framework was designed to address the existing challenges in the regeneration process of formally built and privately owned old urban residential neighborhoods in Iran. The proposed framework did not capture complexities related to the historical, endowed, or informally built neighborhoods. Old rural areas were also excluded from the scope of the framework. To develop the proposed framework, first, the roles of the main stakeholders in the regeneration process were clarified. The public sector was defined as the authority to issue required permits, granting subsidies and incentives, and regulating and moderating the relation between the private developer and the residents. The private sector developer was responsible for designing, constructing, and funding the project. The residents were the landowners and consumers of the constructed buildings in the projects. Second, the main stages of old neighborhood regeneration projects were listed and the level of presence of different stakeholders in each stage was assessed.

Finally, the collected responses to the identified challenges were incorporated into different stages.

Figure 2 provides an overview of the proposed framework. Table 5 presents the challenges addressed in the framework. Different parts of the framework are discussed in the rest of the section.

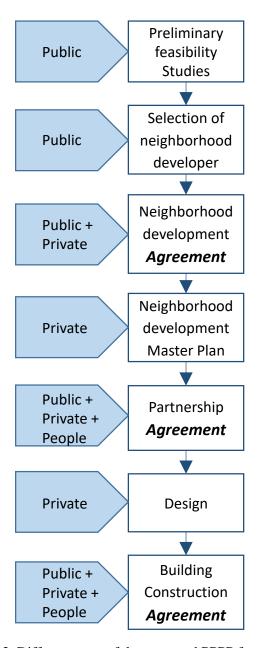


Figure 2. Different parts of the proposed PPPP framework

Table 5. Challenges addressed in the framework

	Challenge category	Challenge	Framework response
Public Sector	Financial	Lack of a systematic financial model	The financial model is assessed and decided in the feasibility studies
		The low price of land in many neighborhoods makes the investment non-profitable	Government subsidies and monetary incentives are assessed and decided in the feasibility studies
		The right of way price drastically increases in many neighborhoods during the project	The tow phase participation model lets investors merge the small plots of lands and then start the construction
		Some plots are shifted into the roads and passages	Neighborhood development master plan prepared by developer brings a holistic view to the regeneration project
	Contractual/ Legal	No contract models exist for the PPPP development model	Three standard-form contracts were prepared in the framework to address the contractual needs
	Executive	The developers did not meet the municipality codes and could not receive the project certificate of project completion from the municipality	The public sector participates in the private-people agreements as the controlling party and directly controls the municipality codes
		Lower quality of the built houses than the resident's expectation	The public sector participates in the private-people agreements as the controlling party and controls the construction quality
		Prolonged process	The public sector participates in the private-people agreements as the controlling party and controls the project progress. Furthermore, penalties are seen in the contract for the parties who do not meet the project timeline.
		Small plots add the number of stakeholders (residents) and complicate the issue	The "partnership agreement" is seen as a separate agreement from the "building construction agreement" to let the private investor merge the small plots of lands.
Private Sector	Financial	A low rate of investment return is a disincentive	Government subsidies and monetary incentives are assessed and decided in the feasibility studies
		The desire to develop large pieces of land to reduce overhead costs	The "partnership agreement" is seen as a separate agreement from the "building construction agreement" to let the private investor merge the small plots of lands.
		The desire to invest in the border areas requires a low investment in the infrastructures	The "neighborhood development agreement" between government and private-sector mandates the private investor to follow a balanced approach for building infrastructure and services in the project.
	Contractual/ Legal	Cumbersome and bureaucratic government contractual model	The balanced standard form contracts are prepared in the framework.
	Executive	Temporary housing is required for the residence	Temporary housing is seen in the "neighborhood development agreement" between government and private.
People	Social	Reduced public services, such as clinics, parks, and standard passages	The "neighborhood development agreement" between government and private-sector mandates the private investor to follow a balanced approach for building infrastructure and services in the project.

The preliminary feasibility studies are required to enlighten the public sector regarding the different economic, legal, and infrastructure aspects of the neighborhood development project. The public sector needs to assess applicable financial models and select the proper financial model for the regeneration projects. In the feasibility studies, the public sector identifies the main requirements of the prospective developer and the incentives and subsidies that make the project feasible. Proper implementation of the feasibility study expels many potential challenges by properly defining the project's scope.

The selection of a qualified private developer and investor is vital for successfully carrying out the development of the old urban neighborhood and avoiding the implementation challenges. The public sector selects the developers according to the identified requirements in the feasibility studies. Available sources of investment and successful past experiences in the required types of urban construction projects are possible selection criteria. In a competitive developer selection process developers expecting the least acceptable rate of investment return can be selected.

The neighborhood development agreement is the first contractual agreement in the proposed framework. In this agreement, the public sector grants the urban development permission to the selected private developer based on the identified requirement in the feasibility studies. Incentives and subsidies promised by the government are also indicated in the agreement. This agreement aims to maintain the integrity of the neighborhood and prevent disputes during the neighborhood development process. It outlines the building's density, general services and infrastructures required, the development timeline and stages, and the partnership principles between the developer and the residents. The temporary housing is also decided in the agreement.

The first stage of the neighborhood development is the neighborhood development master plan. In this part of the framework, the developer elaborates on the neighborhood conceptual development

outlined in the preliminary feasibility studies and forms a basis for the developer's future efforts. Proper preparation of the master plan is vital for maintaining the neighborhood's integrity and avoiding many potential unfavorable challenges.

In many neighborhoods, regeneration projects can be initiated when multiple small plots are merged into a single plot with an acceptable size. The merging process has become a challenging and time-consuming process. Many residents initially accepted to participate in the merging process, change their minds during this lengthy process, and hinder the project's progress. In this framework, a partnership agreement is proposed to avoid this frequently seen challenge. This agreement is signed between the developer and the participating residents. The public sector enters into the agreement as the moderator to control the progress and moderate the interactions between the two. In this agreement, a specified timeline is agreed upon for the merging process and the principles of partnership between the developer and residents are set. If the developer follows the agreed timeline, the residents are committed to continuing their partnership in the design and construction phases. However, if the developer fails to fulfill the timeline, the residents have the right to end the partnership.

After completion of the merging process, the developer performs the detailed design of the merged plot according to the developed master plan and the partnership agreement. The developer needs to get the approval of the public sector for the design compliance with the code and the developed master plan before it can proceed to the next stage. After the design approval, the developer presents the design to the participating residents and allocates different units to them following the partnership agreement directions.

Once the partnership agreement's requirements are met, the developer and the residents are committed to entering the building construction agreement. In this agreement, residents are

committed to hand over their plots to the developer. The developer is committed to complete the construction of the buildings, public services, and infrastructures according to the approved design and the specified timeline. Again here, the public sector moderates the relation between the two and controls the project's progress. Penalties are enforced by the government for the parties who do not meet their commitments.

#### 7- Framework validation

The face validity approach (Holden, 2010) was adopted in this research. The validation process was followed by presenting the framework and its capabilities to 11 stakeholders working at the managerial levels. These stakeholders participated in a joint meeting where their feedback was used to update the proposed framework. The meeting participants concluded that the proposed framework can address the existing challenges presented in Table 5. The proposed framework then was presented to the Urban Regeneration Corporation of Iran (URCI), the deputy of the ministry of road and urban development in old neighborhood development, to be used in future regeneration projects. Further framework validation efforts can be followed during the framework implementation in real old neighborhood regeneration project cases in the country. However, normally these projects continue for years and the case study approach for testing the validity of the framework was beyond the time scope of the current research. Therefore, testing the capabilities of the proposed framework in addressing the existing challenges in real urban regeneration projects cases is pursued as future research.

#### **8- Conclusion**

Iran inherits ancient civilization and there are many old neighborhoods in the country. The vulnerability of these neighborhoods has brought too many casualties and damages to the country during natural disasters in the last several decades. As a result, old urban area regeneration is a

critical matter in the country. The government has created a separate entity of the "Urban Regeneration Corporation of Iran" as the deputy of the Road and Urban Development Ministry to focus on and improve the old neighborhood regeneration. Old neighborhood regeneration projects are usually large-scale projects that can directly affect tens of thousands of vulnerable members of society. It is quite important to follow a thoroughly thought framework to minimize the adverse impacts of these projects on society. For the first time, this research outlines a holistic PPPP framework that is systematically developed for the old urban neighborhood regeneration projects. The research employs the collective experience of past research and field experts to propose this framework. Different parts of the framework are designed to respond to the challenges identified in the literature and extracted in the field survey. The framework represents the organizational structure, main implementation stages, and the required auxiliary implementation tools in the urban neighborhood regeneration projects. The comprehensive list of project challenges identified in an iterative approach for the specific condition of Iran is another novel output of the research. The research also introduces the set of standard form contract documents to address the identified challenges during the old urban neighborhood regeneration projects in the country.

The time and resource limitations of this research forced the research team to limit the field studies of the country-wide organizations to their headquarter offices in Tehran. The field studies of the locally contributing stakeholders, including the municipality, and local councils, were also limited to Tehran metropolitan. Therefore, the application of the proposed framework to urban neighborhoods locating in other cities than Tehran might be subject to further uncertainties. Furthermore, it is suggested that old urban neighborhood residents are directly contacted and surveyed in future research to enhance the quality of the results achieved in the field studies. The proposed framework in the research is the first framework developed for urban neighborhood

regeneration projects in the country and needs to be improved in future research. This research addresses the existing issues in urban regeneration projects with a focus on the high-level interactions between different stakeholders. Operational details are not addressed in the research. New research efforts are recommended to elaborate operational details and find proper solutions for them in urban regeneration projects. The proposed framework still lacks actual implementation to properly represent its capabilities. The framework's capability needs to be examined in real urban development projects in future research. The framework is supported by a set of standard-form contracts designed to facilitate public, private, and people interactions. The performance of these standard-form contracts needs to be closely inspected during the real implementation of the proposed framework. The research team created an M.S. Excel template to facilitate required calculation during the pre-feasibility study stage and identify the proper regeneration scenarios for the neighborhood. The capabilities of the prepared template, however, need to be tested and the required adjustments need to be made in the template in the real old neighborhood regeneration cases.

# **Appendix 1. Summary of the existing regulations**

Table A.1. Summary of the existing regulations

### The laws of the National Strategic Document for the Renovation of Old Neighborhoods

The government must renovate 10% of old urban neighborhoods every year (Islamic Parliament of Iran 2011b, Article 171).

The Ministry of Roads and Urban Development and Municipalities are required to improve, renovate and rehabilitate at least 270 neighborhoods annually (Cabinet of Ministers 2016, Article7).

Preparation of low-cost housing programs with appropriate quality by the Ministry of Roads and Urban Development using past experiences (Cabinet of Ministers 2014, Politics, Strategy 2, Article 2).

### The Laws of Financing

The government can allocate 10,000 billion Rials annually for urban regeneration in the country's budget, and the Central Bank of the Islamic Republic of Iran must allocate at least 25 percent of cheap banking loans to urban regeneration. (Islamic Parliament of Iran 2011a, Jan 2, Article 13 and 15).

The Ministry of Roads and Urban Development has been allowed to spend up to 15,000 billion Rials from its domestic resources and real estate for urban regeneration projects, and the Maskan (Housing) Bank must pay 40,000 billion Rials as a loan to applicants for housing construction in urban renovation (Planning and Budget OrganizationBudget Bill 2018, Single Article, Article 8).

Issuance of bonds, use of the legal financial institutions capacity, and also predicting the cost of urban development in the municipal budget (Cabinet of Ministers 2014, Politics, Strategy 8, Article 4).

Banks and financing cooperation can mortgage the lands belonging to the Ministry of Roads and Urban Development up to 30,000 billion Rials to renovate old neighborhoods (Planning and Budget OrganizationBudget Bill 2019, Single Article, Article 8).

# The laws in the field of supports, facilities, and incentives

Applying a discount of at least 50% to the costs of construction fees and urban density in all housing production projects in old neighborhoods and payment of 100% of the applied discount by the government to municipalities. (Islamic Parliament of Iran 2008, Article 16).

Offering tax breaks to the private sector by the government to provide services, public, cultural, tourism, educational, religious, and sport spaces in old urban neighborhoods (Islamic Parliament of Iran 2011a, Jan 2, Article 12).

Offering low-cost bank facilities and also discounts on license issuance fees (Cabinet of Ministers 2014, Politics, Strategy 5, Article 2).

# The laws in the field of project execution

The owners and residents of the old neighborhoods must be informed about the scope of the project. Also, in order to reach an agreement the value of properties including lots, buildings, and other legal rights of people, must be offered at 15% above the evaluated price (Islamic Parliament of Iran 2011a, Jan 2, Article 6).

If some owners are reluctant to participate in urban regeneration projects and their property prevents the project from being implemented, their share is sold through auction and its price is paid to them (Islamic Parliament of Iran 2011a, Jan 2, Article 7).

The executive institutes must be supported by state lands that can also be used for providing public spaces (Islamic Parliament of Iran 2008, Article 4).

Preparation of guidelines for the design and use of building materials in accordance with the characteristics of the neighborhood in each region by the relevant General Directorate of Roads and Urban Development (Cabinet of Ministers 2014, Politics, Strategy 1, Article 10).

Avoiding the intervention of the government, municipalities, and their affiliated organizations with the only aim of financial profits and avoiding the widespread displacement of residents (Cabinet of Ministers 2014, Guideline Principle, Article 13).

Predicting the programs for grouping and ungrouping the registered housing units and motivating reconstruction in the scale of an urban block (Cabinet of Ministers 2014, Politics, Strategy 3, Article 4).

Supporting the establishment of real estate owners' cooperation (as a representative of owners for grouping, fragmentation, and arrangement of lands) in the urban blocks that require land grouping and arrangement (Cabinet of Ministers 2014, Politics, Strategy 4, Article 4).

Making use of dysfunctional lands located in the outskirts of the city as reserved lands for urban regeneration programs within the framework of urban development projects (Cabinet of Ministers 2014, Politics, Strategy 1, Article 3).

Facilitate the conveyance of state lands for public applications (e.g. educational, sports, health, and cultural applications) in the target neighborhoods through plans like hire purchase or rent-to-own. (Cabinet of Ministers 2014, Politics, Strategy 5, Article 1).

### The laws in the field of social and cultural matters

Regeneration of the old neighborhoods must result in the improvement of the economic, social, and environmental conditions of residents, the fulfillment of housing standards, an increase in per capita public space, enhancement of urban infrastructure, and new job opportunities. Besides, the residents should benefit from the advantages gained in the regeneration process (Cabinet of Ministers 2014, Vision and Major Objectives).

# Appendix 2. The long list of stakeholders in the old area regeneration projects in Iran

Table A.2. The longlist of stakeholders in the old area regeneration projects in Iran

Stakeholder groups	Stakeholders	
	Cabinet (Government) (Cabinet of Ministers 2014)	
	Parliament (Islamic Parliament of Iran 2008) (Islamic Parliament of Iran 2011a)	
	Judicial System (Islamic Parliament of Iran 2011a) (Islamic Parliament of Iran 2011a)	
	Ministry of Roads and Urban Development (Islamic Parliament of Iran 2011a)	
	Ministry of Cultural Heritage, Tourism and Handicrafts (Erfani and Roe 2020) (Islamic Parliament of Iran 2011a)	
	Ministry of Labour and Social Welfare (Islamic Parliament of Iran 2008)	
	Ministry of Energy (Islamic Parliament of Iran 2011a)	
	Planning and Budget Organization (Planning and Budget Organization 2018)	
	Central Bank of Iran (Bahrainy and Aminzadeh 2007), (Assari 2012) (Islamic Parliament of Iran 2011a)	
Public Sector	Tehran City Renovation Organization (Bahrainy and Aminzadeh 2007) (Islamic Parliament of Iran 2008)	
	District Municipalities (Bahrainy and Aminzadeh 2007)	
	Stock Exchange and Securities Organization (Islamic Parliament of Iran 2008) (Islamic Parliament of Iran 2011a)	
	Endowment Organization (Sharifi and Murayama 2013)	
	Municipal Investment and Public Participation Organization (Bahrainy and Aminzadeh 2007) (Islamic Parliament of Iran 2008)	
	Department of Environment (Islamic Parliament of Iran 2008)	
	Telecommunication Company of Iran (Islamic Parliament of Iran 2011a)	
	Iran Grid Management Company (Islamic Parliament of Iran 2008)	
	National Iranian Gas Company (Islamic Parliament of Iran 2011a)	
	Water and Drainage Authority (Islamic Parliament of Iran 2011a)	
	Police	
	National Development Fund of Iran (Islamic Parliament of Iran 2008) (Islamic Parliament of Iran 2011a)	
	Urban Transportation Organization (Islamic Parliament of Iran 2008)	
	Investors (Forouhar and Hasankhani 2018) (Bahrainy and Aminzadeh 2007) (Forouhar and Hasankhani 2018)	
Private Sector	Association of Mass Housing Builders (Islamic Parliament of Iran 2011a)	
	Housing Investment Companies (Islamic Parliament of Iran 2011a)	
	Building Materials Providers (Islamic Parliament of Iran 2008)	
	Real Estate Agents (Islamic Parliament of Iran 2008)	

Stakeholder groups	Stakeholders	
	Contractors (Islamic Parliament of Iran 2008)	
	Residents of Old neighborhoods (Erfani and Roe 2020) (Islamic Parliament of Iran 2011a)	
	Residents of Regenerated old neighborhoods (Islamic Parliament of Iran 2011a)	
People	Businesses in old neighborhoods (Erfani and Roe 2020) (Islamic Parliament of Iran 2011a)	
	Facilitation offices in old neighborhoods (Islamic Parliament of Iran 2008)	
	Local councils (Islamic Parliament of Iran 2008)	

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