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REGENERATION OF THE BAHMANSHIR RIVERFRONT IN ABADAN, IRAN: A HOLISTIC APPROACH TO MAKE PEACE BETWEEN CONSERVATION AND DEVELOPMENT

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Abstract: The Bahmanshir River in Abadan, Iran, holds significant importance from various perspectives. Its cultural and historical value is evident as it is the only live remaining legacy of the ancient Mesopotamian irrigation and drainage system, showcasing a unique natural and cultural heritage landscape. From an economic standpoint, Bahmanshir River is the only remaining source of high-quality freshwater in the region, making it an essential resource for the local population. This underscores the importance of careful planning and management to preserve the river's water quality and ensure the sustainable use of its resources. Given the river's significance, it is crucial for the Abadan city administration to consider these aspects while drafting redevelopment plans for the riverbanks. A thoughtful and holistic approach, taking into account the environmental, cultural, and economic dimensions, will not only enhance the riverfront's aesthetic appeal but also contribute to the long-term sustainability of the region.

The article highlights a comprehensive strategy for the sustainable regeneration of the Bahmanshir riverbank area, focusing on various aspects such as water conservation, rehabilitation, recreational development, and integrated management systems. The approach emphasizes the importance of considering environmental, social, and economic factors to ensure the sustainable development of the waterfront zones. The article argues that rethinking urban planning in riverside areas is crucial, emphasizing the potential for utilizing these spaces for recreational activities and urban development while preserving their natural and cultural heritage. The need for a sustainable urban regeneration framework is highlighted, along with the identification of possibilities for achieving this goal. To effectively measure the impact of sustainable urban regeneration efforts, the article suggests developing a conceptual model based on relevant theoretical frameworks and identifying the most effective indicators and indices. This methodological approach is essential for ensuring the successful regeneration of the Bahmanshir riverfront, maintaining a balance between conserving its historical significance, promoting recreational activities, and fostering urban development.

Key words: riverfront, regeneration, sustainable development, Bahmanshir, Iran

INTRODUCTION

Abadan is one of the rare cities in the world that has always had all the resources necessary to be a powerful city. Twelve months of sunshine, proximity to the sea and open waters, fertile farmlands, and flat land with low topography, huge oil and gas deposits and

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most importantly three mighty rivers within its borders: Karun, Arvand and Bahmanshir. According to Ehsani, K. & Elling R.C. (2018), it is a cosmopolitan, multi-ethnic and progressive city that has played a crucial role in national and global affairs. Before the Islamic Revolution (1979), it was considered one of the most pioneering cities in the world due to the king's plans, and before the Iraq-Iran War (1980-1988), it was a very special city. This city is the best representative of the rise and fall of Western-oriented modernization in the contemporary urban history of Iran.

As the urban economy has shifted from manufacturing to services in many industrial cities over the past three decades (Pennik, 2017) the closure of factories has led to the opening up of waterfront areas to increased recreational, residential and commercial uses and a new kind of urban economy. (Hersh, 2012) Although these are not the only essential functions for a good urban renewal project (Colantonio & Dixon 2011), these three land uses mentioned above are enough to put unpredictable pressure on the urban ecosystem and other valuable urban assets - housing, the abandonment of old urban structures by their original owners due to inadequate urban facilities and services has led to new lower income residents with little sense of belonging to the natural and urban resources to take their place. (Samiei Esfahani, 2020) This situation made it necessary to shift urban policies and strategies from the old-fashioned patterns to the most modern paradigms, from urban reconstruction to sustainable urban regeneration. (Pennik, 2017) The urban areas on the banks of the Bahmanshir river are facing such circumstances and need a roadmap for the rehabilitation and treatment of a valuable integrated natural and cultural urban environment.

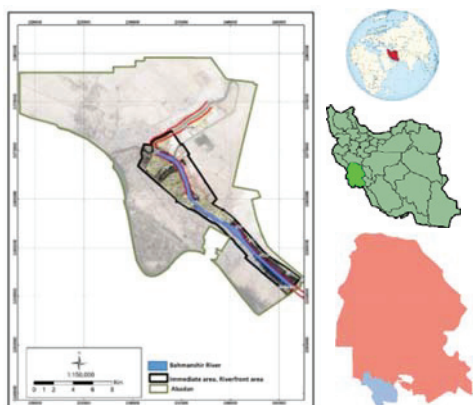


Figure 1: Geographical Location of Abadan and river Bahmanshir

Bahmanshir is the river in the city of Abadan in southwest Iran. The city administrators of Abadan are in the process of making decisions about redevelopment plans for the banks of the Bahmanshir. This measure could lead to a repeat of the two previous unsuccessful attempts on the other two banks of the river in Abadan because no comprehensive and integrated plans were envisaged. The sensitivity of the Bahmanshir river is higher than that of other rivers in the area because of the natural and cultural heritage in the areas associated with this one, and also because this is the only remaining natural freshwater reservoir of high quality compared to the other rivers in the region.

PROBLEM STATEMENT

Riverfront regeneration projects are extraordinary complex, incorporating real estate economics, land use, community benefits, ecology, hydrology, sustainability metrics, design, and politics across a variety of associated disciplines. (Hersh, 2012) Thus, riverfront urban areas development should engage with a proactive urban development and management model. Since lack of it may lead to lose the underlying municipal natural, cultural and financial assets.

In general, the life cycle of a riverfront goes through four main phases, beginning with the emergence of the riverbank as a starting point for a civilization, followed by growth and establishment, followed by the decline of the riverbank, and finally the rediscovery and awareness of the riverbank (Elhalaby & Attia, 2017). The merging of urban regenera-

tion and sustainability into a hybrid concept of sustainable urban regeneration reflects the evolutionary journey and the different phases of regeneration. (Colantonio, & Dixon, 2011) Developers must attend to site analysis, property reuse approvals, market analysis, financing, redevelopment and liability concepts, project organization and sequencing, waterfront design and improvements, and a variety of regulatory reviews, all of which are interrelated. (Hersh, 2012) To overcome this difficult situation, it is necessary to develop and apply new strategies. In addition, actions, studies, research, legislative proposals and policy formulation are needed that lead to the transformation and regeneration of urban areas in order to preserve the environment and landscape and prevent the loss of land for other purposes. (Alpopi & Manole, 2013) Thus, the Common Agricultural Policy, Cohesion Policy, Community Research and Development Policy, Transport Policy and Energy and Telecommunications Policy, Environmental Policy and Housing Policy should also be based on the principle of sustainable development (Alpopi & Manole, 2013).

An integrated and comprehensive theoretical framework and practices for solving urban challenges that transcend long-term visions and urban renovation, urban reconstruction, and urban revitalization (Colantonio, & Dixon, 2011). Regenerative sustainability is emerging as an alternative discourse on the transition from a "mechanistic" to an "ecological" or living world view. This view helps us to reconceptualize the relationships between human technological, ecological, economic, social, and political systems (Zhang et al. 2015). This term is used in conjunction with sustainability concepts and will create a new identity adapted to contemporary social needs, especially for disadvantaged areas that are on the pillars of the Sustainable Development Goals.

Previous studies show different approaches to urban riverbanks, including "ecological approach", "land management approach", "restoration approach", "natural approach", "ecosystem approach", "landscape ecology approach", "sustainable development approach", "sustainability approach by promoting spatial identity" (Samiei Esfahani, 2020). Each of these terms was created to capture and conceptualize the key features of ongoing urban sustainability efforts. The literature increasingly points to the role of sustainability approaches in defining strategies for urban change. In particular, urban regeneration is often seen as one of the most effective mechanisms for implementing sustainable urban development. (Privitera & La Rosa 2016) The urban regeneration framework is set as a comprehensive strategy to achieve higher quality urban planning and design in less privileged zones, socially dysfunctional and inadequate urban spaces.

"BAHMANSHIR RIVERFRONT REGENERATION" RCN PROJECT

The Bahmanshir is the most important river in Abadan. There are several districts on both sides of the river. This ecological region has an enormous and high value of natural, cultural and human resources. This is the most historical part of the city, and most of Abadan's urban challenges are clearly visible in this area. The importance of the Bahmanshir riverside area is considered as it offers the best opportunities for the revitalization of Abadan, as the integrity of the natural-human landscapes and rural-urban areas is linked to the natural and cultural heritage of Abadan's history.

That is why the urban areas on the banks of the Bahmanshir river are the target of the new development plans with a number of ill-conceived provisions. The banks of this river are the last hope for the community and the city's government authorities to create a series of catalyst projects to revitalise the city. However, they face the threat of losing the precious natural and cultural heritage values due to the ignorance of the local people and the non-integrated decisions of the city administration. The Arvand and Karon riverfront projects in this city have already had two bitter experiences with numerous unprecedented consequences. For example, the unsuccessful redesign and maintenance of Arvand-Kochak,

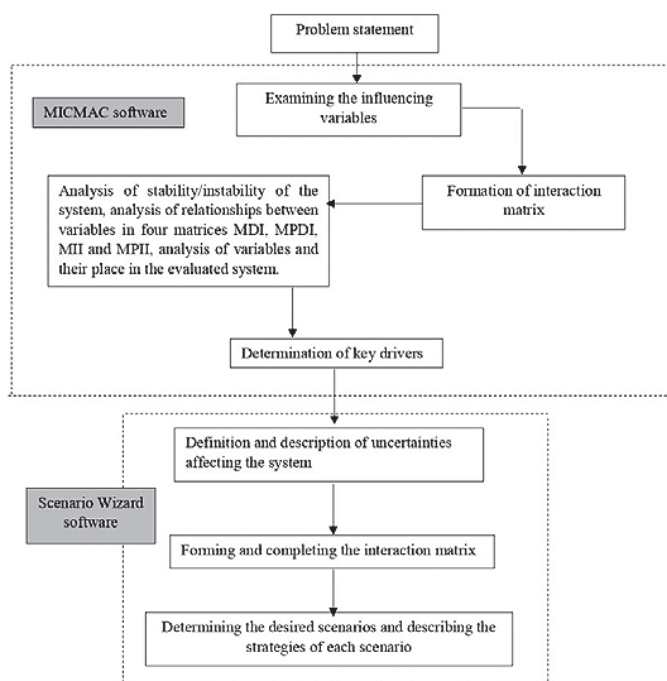


Figure 3: Flow of analysis

The project strategy is consistent with several points: Provision of water in sufficient quantity and quality for all purposes (drinking water, industry, agriculture, fishing, etc.); Protection of the environment and ecosystem of Bahmanshir river; Protection and restoration of palm farms, green areas and canals; Development of transportation infrastructure and access to the river basin and the immediate surroundings of Bahmanshir river; Revitalization of traffic conditions for ships on the river; Economic development of the local community, including the development of employment, entrepreneurial culture and increasing income levels (completing the supply chain in the production and tourism sector, especially ecotourism in the practical and immediate surroundings); Creating the necessary conditions to attract investors (domestic and foreign); Development of institutions and organizations of non-governmental organizations and local associations to increase and promote the participation of the local population in the achievement of all objectives; Development of sustainable security (social, political, economic, military, environmental, physical); Development of critical infrastructure (water, electricity, gas, sewage, telecommunications, etc.) in the immediate vicinity of Bahmanshir river; Per capita spatial development is required to realize spatial equity and welfare in the immediate and operational vicinity of Bahmanshir river; Provide quality urban and rural services and increase the level of control and implementation of construction-related laws to increase the quality of construction in the immediate vicinity of urban and rural areas.

It is clear that the goal of sustainable regeneration of urban areas on the riverfront with the approach of conservation and development is to merge environmental values with urban development, improve the urban quality of life, adapt the relationship between humans and urban nature, create sustainable places and a variety of recreational centres and to prevent natural crises such as flooding, and rehabilitate and protect historical features related to the river – natural irrigation, traditional shipbuilding, intangible heritage, etc. – and influencing upstream water management policy at provincial and national level.

CONCLUSION

Abadan is a post-industrial shell of its former glory days as a beacon of modernity. This city has been ravaged by the worst of international and national political, environmental and economic crises in the last 40 years. Today's Abadan resembles the deindustrialized Detroit or Gary, the former US automobile and steel cities that fell victim to neoliberal globalization. (Christian, 2018) Despite several plans for post-war reconstruction, the city suffers from poor living conditions. (Samiei Esfahani, 2020)

Urban development in this city requires the application of the urban renewal paradigm and the change of many old and outdated laws and social norms. Therefore, a strong perspective and an intelligent strategic plan are required. A proactive model should be developed to support urban governance in Abadan through the theoretical framework of urban regeneration. Also, the study of similar cases in some cities and situations around the world could serve as a good example. It would be the first attempt in this regard for Iranian cities as this topic is still quite new in the country. Complexity of the regeneration process on the banks of the Bahmanshir river is coupled with the concerns for preserving the ecosystem and the national interest in achieving the sustainable development goals.

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