

Summaries

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MULTI-CRITERIA EVALUATION APPLIED TO A PILOT SUSTAINABLE NEIGHBOURHOOD PROJECT IN ALGERIA: THE EL RYAD NEIGHBOURHOOD CONCERNING SUSTAINABILITY INDICATORS

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Keywords: eco-neighbourhood, evaluation, sustainable development indicator, sustainable urbanism, Oran

Climate change and its effects now seem to be well established and linked to human activity, and this is reflected in the fact that this major issue is being placed on the world's political agendas. Cities make a significant contribution to climate change, accounting for almost three-quarters of total emissions, but they are also home to innovative and sustainable practices. In the face of this global crisis, sustainable urban development became an essential means to the application of sustainability in the urban areas. It is one of the major challenges faced in urban planning and development policies. To guide these policies in their decisions, evaluation remains a crucial step in implementing sustainability actions. A series of indicators are available in the form of methods and decision-support software.

In Algeria, a new political will is emerging to integrate the notion of sustainability into urban planning, in order to achieve responsible management of existing urban spaces, enhance them, and develop a strategy for rewriting the urban framework according to its real potential to accommodate growth. With this in mind, the transfer of experience from northern countries needs to be framed and "contextualised" so that it is as relevant as possible, to meet sustainability needs that must first be prioritised. A reflection is required on the adaptation of an evaluation method to a South-Mediterranean context that differs from the one in which the method was created.

The aim of this research work is to create a local evaluation grid that allows us to visualise the object in its true value, adapted to the context. The influencing factors of the various indicators have been the subject of much debate in recent years, attracting particular attention of researchers. For this reason, we have turned our attention to a composite tool that aims to superimpose the data used by two evaluation systems at the same time, namely the indicators of the University of Quebec's eco-counselling charter grid and those of the INDI (INDicators Impact) software of the ISDIS system developed by the SUDEN Association.

The operation of repositioning objectives according to the priority attributed to them can be expressed through the "objective weighting" box present on this grid, which allows us to give a "coefficient" to each objective according to its order of priority in the context studied. In this way, we will be able to develop an analysis of the district using "weighted indicators", which we will then try to superimpose on the graph of the INDI model of the HQE2R approach. In this way, we expect to obtain a model adapted to a very specific context. The Algerian and Oranese context, in particular, has so far lacked this kind of assessment tool, which is nonetheless necessary to support

public policies and other players in the decision-making process, in integrating sustainable development as an approach, particularly in urban projects.

By applying this method, we have the opportunity to see the assessment results for the El Ryad district with the advantage of the clear legibility offered by the INDI tool of the ISDIS method. The segmentation of objectives into 18 targets enables us to see the gaps numerically. The functional mix target narrows the graph, while health and safety was one of the major objectives of the project's promotor from the outset, who wanted to create a neighbourhood where life was "good". Particular attention was paid to the project's landscape quality. A "selective" socio-financial mix was adopted, with the aim of ensuring the group's adherence to the "sustainable neighbourhood" concept as a national pilot project.

As far as the rationalisation of renewable energies is concerned, the results of the survey show that the objective has not really been achieved, and a number of ideas were suggested to ensure more sustainable consumption. In addition, the El Ryad project is performing well in terms of sharing common spaces, as well as local governance, thanks to the establishment of the management company named GIRYAD, which works in collaboration with the neighbourhood committee. The group's adherence to the concept is judged to be quite effective. Even if the decision-making process has not begun since the project's inception.

On the whole, targets related to the environmental aspect of the area under study are those that are most "damaged" in favour of economic and social aspects. This could be explained by a lack of resources dedicated to this aspect, the high cost of the technological devices that need to be put in place to achieve the objective, or an order of priorities established by local governance. In fact, other needs, particularly those relating to the economic and social aspects of sustainable development, are considered a "priority" in a developing country.

Through the experience of an evaluation trial in the El Ryad district, the article first reflects the need for a debate on the importance of evaluation in a "sustainable" urban planning approach; then on the relevance of evaluation by sustainability indicators in this sustainable urban planning. Next, the study attempts to interpret the question of preparing this this evaluation that would use sustainability indicators in relation to a given spatio-temporal context. Adapting an assessment tool such as the INDI model provides not only a political-administrative basis, but also a technical basis for assessing the sustainability of projects through the legibility of the criteria offered by a pictorial assessment system.

FORMATION AND EVOLUTION OF RESIDENTIAL BUILDINGS IN THE DJELFA REGION OF ALGERIA

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Keywords: building type, typological process, tent, courtyard house, row house, apartment block, Djelfa

This research delves into the evolution of residential structures in the Djelfa region of Algeria, employing the principle of organicity as a framework to understand the continuity and interdependence of building forms over time. The study is grounded in the concept of the typological process, developed by the Italian School of Processual Typology, which examines the progressive differentiation of building types within a cultural area. The Djelfa region in Algeria, situated between the temperate Tell in the north and the arid Sahara in the south, has historically been shaped by two complementary lifestyles: the sedentary lifestyle, based on arboriculture and housed in villages called ksour, and the nomadic lifestyle, based on livestock and cereal farming, with tents as the primary form of habitat. This unique context provides a rich backdrop for exploring the transformation of residential typologies, from primitive huts and tents to courtyard houses, row houses, and modern apartment blocks.

The earliest residential forms in Djelfa include the hut and the tent, each representing distinct responses to environmental and cultural needs. The hut, an enclosure-based structure, evolved into the courtyard house, which became a dominant typology in the

region. The courtyard house is characterised by a central open space surrounded by rooms, with its orientation optimised for sunlight. This typology reflects a deep connection to the region's cultural and environmental context, evolving through diachronic variations such as the gradual occupation of the courtyard and the introduction of external openings. In rural areas, courtyard houses are simpler, often consisting of two to three cells for residential and storage purposes. In urban areas, they form low-density fabrics, with growth patterns influenced by the need for sunlight and spatial organisation. Urban courtyard houses exhibit greater complexity, with variations in access and layout to accommodate commercial and residential needs.

The tent, on the other hand, represents the nomadic lifestyle and is optimised for environmental adaptability and ease of transport. It is a lightweight, mobile structure designed to be easily dismantled and reassembled. The tent's design reflects a high degree of specialisation, with specific techniques developed to respond to extreme environmental conditions. However, its potential for evolution is limited. The typological process of the tent primarily involves dimensional growth, with larger tents used for festivals and assemblies rather than residential purposes.

As the region underwent socio-economic changes, new residential typologies emerged. The row house evolved from the fragmentation of courtyard houses, reflecting the increasing value of urban land and the growing importance of commercial activities. Row houses are closely tied to the street, with narrow, deep plots and vertical growth. They represent a shift from the inward-focused courtyard house to a more outward-oriented typology.

The socio-economic turbulence of the 1990s further influenced the evolution of residential typologies, leading to the emergence of spontaneous apartment blocks. These blocks often include commercial spaces, reflecting the economic pressures faced by families. Spontaneous apartment blocks represent an adaptation of the courtyard house to new economic constraints and changing lifestyles, with families opting for multi-storey constructions to generate rental income. In contrast, planned apartment blocks represent a more formalised approach to urban expansion, though they often lack integration with the fabric. These blocks are characterised by their monotony and weak integration, reflecting the disintegration of the components of the urban fabric, such as the path, the plot, and the built unit.

The study reveals a dynamic evolution of residential typologies of Djelfa region, marked by alternating periods of stability and transformation. New building types often inherit characteristics from their predecessors, demonstrating a continuity in the typological process. The courtyard house, in particular, has proven to be a highly adaptable and influential typology, shaping urban forms over long periods and serving as a foundation for new architectural configurations. Its evolution reflects a deep cultural significance and a strong territorial anchoring.

This research underscores the importance of interpreting and designing the built environment "with the same hand," a concept that involves reconstructing the process of shaping architectural reality as a sequence of interconnected phases. By retracing these phases, the study establishes a coherent relationship between existing structures and future interventions, ensuring continuity between past, present, and future developments. Redrawing the structuring phases of the residential built environment yields a series of "reconstructive samples" that, when viewed in sequence, reveal the evolutionary path leading to the current state of the built environment. This current stage is not an endpoint but a transitional moment—a culmination of the typological process and a foundation for future changes. The present built environment thus serves as a dynamic matrix, embodying historical adaptations while guiding future transformations. This approach highlights the need for continuity and adaptability, ensuring that future designs are rooted in a deep understanding of historical and typological evolution.

MATERNAL HEALTH AND WELL-BEING: BEHAVIOURAL PERSPECTIVE OF ARCHITECTURAL GARDEN FEATURES FOR SUSTAINABLE ANTENATAL AND POSTNATAL CARE IN TANZANIA

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Keywords: behavioural perspective; garden features; maternal health; sustainability, well-being

Garden features are essential for improving maternal health and well-being. Nevertheless, the maternal mortality rate in Tanzania has been declining over the latest years due to government efforts and international development aid organisations' support. Several studies have suggested designing features that offer positive feelings to encourage awareness, arouse senses, and stimulate curiosity for different user groups in hospital settings. They have underscored that when tangible garden features, such as plant materials, water features, and playgrounds, are accommodated in the design, they provide environmental indications for different user groups to assess the compatibility concerning their determinations and what nature can provide.

This study has investigated garden features with healing effects to assess users' behavioural perspectives in determining the capacity of garden features for sustainable antenatal and postnatal care. It adopted a questionnaire tool and an interview as a survey method to collect and examine the behavioural perspective of hospital garden features that mainly targeted the caregivers and hospital visitors of a large population based on a small collected sample of respondents within the case study area. The data was computed and analysed – collected from the Meta Maternal Department (MMD) of Mbeya Zonal Referral Hospital (MZRH) in Mbeya, Tanzania. The quantitative approach involving a survey questionnaire, multiple regression analysis, and SPSS 25-AMOS were adopted to analyse the data and generate the structural equation model which addresses sustainable maternal health (MH) factors in antenatal and postnatal care (A&PNC). Moreover, the study computed the reliability estimate associated with the composite scores for the eleven observed variables or items using the standardised Cronbach's formula.

Findings underscored the three most significant indicators found to be related to garden features ($\beta_{GF} = 0.227$, $p = 0.000$), behavioural perspective of mothers ($\beta_{BP} = 0.067$, $p = 0.001$), antenatal and post-natal care ($\beta_{A\&PNC} = 0.246$, $p = 0.002$), and social affair factors ($\beta_{SA} = 0.092$, $p = 0.003$) with an explanatory power of 55.7% ($R^2 = 0.557$). On the other hand, the multiple regression findings show that three predictors have achieved a reasonably good performance of 55.70% ($R^2 = 0.557$), clarifying a substantial relationship between explained variables. The obtained results indicate that all three constructs of the recognised strategies (garden features, social affairs, and behavioural perspective) bear a positive statistically significant role in reducing challenges related to depression and anxiety to attain maternal health.

This study has addressed the outdoor healing environment in MMD of MZRH that determines the benchmarking of design guidelines for researchers and designers during the design of maternal hospitals. However, the findings and recommendations call upon outdoor healing environment designers' commitment to include all necessary healing garden design features that accelerate the healing process. Finally, the study draws an opportunity for caregivers and decision-makers to apply and integrate garden users' requirements during the healing garden design to reduce postpartum depression and anxiety challenges.

URBAN FORM AND PSYCHOLOGICAL SENSE OF COMMUNITY: THE ROLE OF INTER-MEDIATE SPACES IN COLLECTIVE HOUSING IN JIJEL, ALGERIA

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Keywords: sense of community, urban form, intermediate space, collective housing

The emotional bond and sense of belonging that people feel in their living space or larger community is known as psychological sense of community, or PSC. Previous studies have identified a number of characteristics that influence PSC, including length of residency, variety of activities within neighbourhoods, and general residential environment quality. These factors are known to play an important role in promoting feelings of social support, belonging, and cohesion. However, despite the established importance of these elements, there has been limited exploration of how urban

form—particularly the layout of urban spaces—influences social interaction and PSC, especially in collective housing contexts where communal living and shared spaces are central.

With its common layouts and shared areas, collective housing provides a crucial backdrop for examining this relationship. In particular, less is known about the function of transitional spaces, such as courtyards, pathways, and common areas that lie between private and public places. These areas are critical for promoting social interaction since they give locals a chance to get together, meet, talk, and do things together. They are therefore thought to play a role in the development of PSC. This study aims to address this gap by investigating how urban form influences social interaction and PSC in six distinct collective housing areas in Jijel, Algeria. The central hypothesis is that the physical layout of the housing area, particularly the organisation and quality of shared spaces, has a significant impact on the frequency and quality of social interactions, which in turn strengthen residents' sense of community.

Data was gathered from 400 residents in six Jijel communal housing zones that were chosen for their diverse common space layouts and designs. The availability and calibre of common areas including courtyards, sidewalks, and gathering places vary among these locations. With a primary focus on statistical analysis, the study combined qualitative and quantitative methodologies. Using Analysis of Variance (ANOVA), the study examined how variations in housing layouts influenced residents' perceptions of their sense of community and their behavioural control, a key component of PSC. The analysis also considered other factors such as the length of residency and the level of functional diversity within the area, to provide a comprehensive understanding of the variables at play.

The findings showed that inhabitants' opinions of their sense of community and behavioural control varied significantly based on how their housing area was designed. People who lived in neighbourhoods with well-planned, open, and easily accessible common areas—like courtyards and walkways—reported feeling more connected to the community and having more control over their conduct. Residents saw each other more frequently and meaningfully as a result of the increased social contact chances these areas offered. In contrast, areas with more closed, fragmented layouts, and fewer communal spaces were associated with weaker perceptions of community and less social engagement. The findings indicate that the physical layout of the housing environment—particularly the presence and quality of intermediate spaces—plays a crucial role in promoting social interactions, which are vital for fostering a sense of community.

The quality of shared spaces was shown to be the most important factor in determining social interactions, however the length of residency and the variety of functions within the neighbourhood also had an impact on people's sense of community. These findings illustrate how crucial urban planning is for promoting social cohesiveness and community well-being, emphasising how thoughtfully planned common spaces may greatly improve the psychological and emotional ties that locals have with their neighbours.

These results have significant ramifications for housing design and urban planning. The study shows that promoting social interaction and improving PSC are greatly aided by the layout of communal living spaces, especially the quality and accessibility of common areas. Architects, urban planners, and housing developers are encouraged to consider the social implications of spatial design when designing new housing developments. Cities may enhance people's mental and emotional health in addition to the physical housing infrastructure by establishing settings that encourage social interactions. This implies that the establishment of open, easily accessible, and well-kept common areas that encourage contact and foster a feeling of community should be given top priority by urban planners.

The study also highlights how intermediate spaces, which are located between the public and private spheres, can strengthen social ties. These areas serve as transitional areas where locals can interact with one another, preserve common assets, and feel included. The study promotes urban plans that give priority to these kinds of areas, especially in situations including shared housing where socialising possibilities are more common.

Cities may develop spaces that not only satisfy the practical requirements of their citizens but also promote a stronger sense of community and support amongst them by using a holistic approach to urban design. Well-planned common areas help create more cohesive, stronger communities where people feel more a part of the community and social interactions flourish. According to the study, in order to establish resilient, supportive communities where citizens may form deep social relationships, cities should include community-building ideas into their planning processes. The study lays the groundwork for future investigations into the ways that spatial design affects social dynamics, especially in situations involving collective living where there is a significant possibility for community development.

In the end, this study emphasises how urban design has the ability to influence the standard of living in urban settings. Architects and urban planners can contribute to the development of more cohesive, resilient communities that promote well-being and cohesion among inhabitants by emphasising social interaction and the design of areas that promote involvement.

A NEW COMPREHENSIVE APPROACH FOR ARCHITECTURAL HERITAGE CONSERVATION: THE CASE OF AL-ALAMI HOUSE IN GAZA

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Keywords: Gaza, Palestine, architecture, heritage, conservation, comprehensive

The architectural heritage of historical cities is a manifestation of the relationships between the environment, society, and culture. The preservation of this heritage depends on how conservation projects respect these relationships. Not only the architectural visual value is unique and distinguished, but also their symbolic social, political, and economic contexts extraordinarily shape the history of their countries (Doratli et al., 2004). Doratli et al. (2004) argue that conventional planning approaches to conservation cannot provide suitable solutions for these problems. They are straightforward protection approaches that mainly address technical-scientific issues concerning material aspects of historic centres. At the same time, new approaches tried to bypass these old-fashioned ones by using separated individualised concepts mainly concentrating on adaptive reuse (Hekim, 2007), and participatory conservation stimulating the public participation in the conservation process (Steinberg, 2009). Fister (2001) denoted to the concept of the Granada Convention in the 1970s: "integral protection" highlighted the role of the built heritage not only as document of history but also as a quality part of the human environment. Each one of conservation concepts concentrated on certain aspects of architectural conservation. Despite the recognised importance of each of them, it fails to sufficiently fulfil the required needs of historic buildings and their long list of complex challenges. Generative revitalisation by virtue implies the continuous adaptation of the built environment to the ever-changing activities of the community. The adaptive reuse will never succeed without the full participation of the community in financing, managing and administering the conservation process. And only if all these factors respond to the actual needs and aspirations of the community, not the dreams of the planners nor the whims of the decision makers, it can be said that real goals of architectural conservation can be achieved. Needless to say that concept of sustainability is an original component of architectural heritage development. Finally, the concept of peaceful reconciliation might be the most needed these days where the conflicts and instability are affecting many communities around the world and have been seriously affecting architectural heritage.

This research provides a new concept for a comprehensive approach for conservation which includes the following elements:

- Generative
- Responsive
- Adaptive
- Sustainable
- Participatory

- Conciliatory

These elements are explained and examined in each component of urban development which include society-culture, economy, sustainability, and urban fabric. The research also provides a case study analysis for one of the distinguished conservation projects in Gaza, Palestine. It is Al-Alami Historical House.

Architectural heritage in Gaza Old Town (GOT) dates to the Ottoman period although it is believed that some structures are Ayobid or Mamlok. By the turn of the 20th century, it had a beautiful traditional Mediterranean townscape. Since 7 October 2023, Gaza Old Town as well as the whole Gaza Strip came under unstopping fierce bombardment that left the built environment devastated in destruction. Complete neighbourhood were erased, and all historical buildings and sites were destroyed. In 2000, the IWAN Centre for Architectural Heritage Conservation was established in the Islamic University of Gaza (IUG) as the first centre of this kind in Gaza Strip. IWAN has been struggling to rescue some of these buildings and succeeded in few attempts. One of the recognised attempts was the conservation of Al-Alami Historical House (2009–2010). Generative processes did not apply to the house as it was an individual building removed from the traditional urban structure of the historical city and the related cultural and social settings associated with it also disappeared. The project responded to the physical needs of the house itself and at the same time to the social and cultural needs of the community. This includes the needs of the schools, universities, public and private institutions, and the public. Likewise, the project responded to the Palestinian national needs for preserving national identity. Israel never thought of using Al-Alami house and similar projects to reconcile for peaceful understanding of heritage in Palestine. The Israeli jet fighters have seriously damaged Al-Alami house along with other 68 historical sites that have been destroyed after 7 October 2023. The GRASP concept of architectural heritage conservation provides a comprehensive framework for the planning and management of the conservation process and the assessment of its impacts. It has the potential future development to be more detailed and to provide indicators, sub-indicators and measures.