

**Public spaces as agents of inclusive and sustainable urban transformations. The case study of
"Xersonisos tis Panagias" in Kavala, Greece**

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Abstract

Even though public spaces reshape urban areas and act as sites of hope, we note significant differences in their role in small and big urban areas. Considering the important challenges encountered worldwide, the paper tries to answer the question of how public spaces in small and medium-sized cities could work as agents of inclusive and sustainable urban transformations and thus lead to positive changes in the development of urban areas. The choice of the case study "Xersonisos tis Panagias" in the city of Kavala in Northern Greece was based on the necessity to propose a planning methodology for public spaces which focuses on existing local power dynamics as a means towards an inclusive and equitable living environment for the inhabitants of these areas.

Key words: public spaces, urban areas, sustainable development, inclusion, Kavala (Greece)

Introduction

At the international level public spaces play a key role in the development of urban areas as they act as places for social encounters, political contestations and cultural events (Siláči and Vitková, 2017). Since the ancient times in Greece and in Rome public spaces, in the form of forums and "agora", were areas where people were gathering in order to take decisions about the governance system or to organize cultural events as we can see in examples of medieval cities in Western Europe (Flohr and Zuiderhoek, 2024). At the same time many political contestations take place in streets, squares and parks showing the close connection between grass-root movements and open-air urban spaces where people can easily gather and express their social and political beliefs (Pereira-Zazo and Torres, 2019). In many cases starting from political contestations in the 1950s and 1960s, such as May 1968 in France and the manifestations in USA regarding the War in Vietnam, as well as the more recent manifestations during the period 2010-2020 in several countries of South Europe and Asia (Spain, Greece, Turkey) focusing on economic policies, it is evident that public spaces could reshape cities by bringing together people from different social classes who fight for their own "right to the city" (Harvey, 2008).

Sustainability in all three dimensions (social, economic, environmental) is part of the design of public spaces as they play a key role in cities' transformations in the 21st century. In social sustainability reports and in documents of international organizations such as the Agenda 2030 it is stated that public spaces play a central role in shaping social interactions among cities' inhabitants, foster equity while at the same time environmental sustainability and economic development is linked to their organisation and functions (UN, 2015). It is clear that international organisations such as the United Nations and World Bank are interested in promoting sustainable development conditions worldwide through the design of public spaces, but we should underline the fact that many cities lack funds for the development of such operations or do not have highly experienced executives for the design and implementation of public spaces' policies (El-Kholei and Yassein, 2022). Another concern is about the main focus of public spaces' policies promoted by international organisations, as they often prioritize green washing and gentrification and do not focus on the social dimension of sustainability which could bring social equity and cohesion in all parts of a city and the world (Çetin et al, 2023).

Despite their different form and functions public spaces can reshape urban areas and act as sites of hope, especially in underdeveloped territories where there is need for spaces for recreation and gathering (El-Bardisy, 2024). We should underline the different role of public spaces in small and big urban areas as well as areas of the Global North and Global South (Landman and Mady, 2022). Questions related to climate change and world warming are more evident in big urban areas and thus the planning of public spaces inside these areas and their design are considered as measures for improving environmental conditions (Vukmirovic, Gavrilovic and Stojanovic, 2019). On the contrary, in small urban areas as well as in areas of the Global South the main focus in the planning and design of public spaces is the revitalisation of territories that were neglected or polluted for several years in order to reintegrate them into the urban fabric (Jaszczak et al, 2021). While the main focus of such operations seems to be the well-being of cities' inhabitants it is important to note their high cost and the subsequent gentrification of territories where people with low incomes used to live (Bélanger, 2007). The beautification of neglected territories through the design of public spaces together with the construction of office buildings and commercial centres leads to a swift in the social tissue, by bringing into these areas people with high incomes and leaving behind people that were born and raised there (Gutiérrez, 2024).

Considering the important challenges encountered worldwide in the design and strategic planning of public spaces, the paper focuses on the role of public spaces in small and medium-sized cities, especially to the ones affected by socio-economic and environmental problems. How could public spaces in small and medium-sized cities work as agents of inclusive and sustainable urban transformations and thus lead to positive changes in the development of these urban areas? Small and medium-sized cities often face challenges such as the loss of local population due to the closure of local enterprises, schools and health facilities (Bowns, 2013). In several cases such as deindustrialised cities in West European Countries they lack the necessary funds for their redevelopment based on the three pillars of sustainable development (social equity, environmental protection, economic development) (Atolia et al, 2020). Under these conditions it seems critical to propose redevelopment policies which prioritize the design and planning of public spaces, as public spaces are often combined with the creation of shops and enterprises as well as the construction of housing (Cromwell, 2018). However, we should underline the need to propose redevelopment policies which consider the local characteristics (social, economic, environmental) and avoid green washing and gentrification policies.

The main purpose of the paper is to question the appearance of planning methods and tools for the redevelopment of small and medium-sized urban areas which focus on the design of public spaces while maintaining the characteristics of the local tissue. Which are the characteristics that define the identity of urban areas and need to be considered during the processes of design and planning of public spaces? In our methodology we identified three main categories based on the toolkits of international organisations such as the United Nations (UN, 2015), researchers-practitioners (Gehl, 2010) and groups of academics, "Critical Heritage Studies" (Harrison et al, 2023) in order to analyse the design and planning of public spaces as a process that fosters social equity, protects the environment and cultural heritage and brings economic prosperity in areas facing economic and social difficulties. It is important to mention that the identification and analysis of the special characteristics of urban areas (social, cultural, economic, environmental) alongside the development of planning strategies that focus on these characteristics could potentially enhance social cohesion and economic development as they are retrofitted processes (Urban Initiative, 2024).

Methodology

The research method used was the descriptive-analytic. The descriptive method was used in order to define planning methodologies for the design of public spaces. Our main hypothesis is that the design of public spaces should be the basis for the redevelopment of areas facing socio-economic and environmental difficulties, as usually around public spaces we can find commercial and recreation activities as well as residential and office units. At the same time, in contemporary urban design and city planning policies (urban ecology, environmental urban planning and design) public spaces are designed as spaces that reintegrate nature into the urban fabric. This means that in these spaces we can find a significant number of trees and plants, while in certain cases

polluted natural elements existing in cities, like streams, are restored and re-integrated into the urban fabric.

Neglected urban spaces, such as urban voids usually resulting from deindustrialisation or from the closure of local enterprises are nowadays re-designed as public spaces in order to re-integrate them into the urban fabric. These spaces are also linked to economic recession and environmental degradation especially the former industrial lands. In certain cases, they are occupied by homeless people and immigrants, while contractors, investors and local authorities show a particular interest to build them in order to boost the local economy of cities facing social and economic difficulties. In this context the reconversion and transformation of urban voids into public spaces offers a second life to places that were underdeveloped and neglected for several years due to socio-economic problems. Our hypothesis is that the redevelopment of urban voids as public spaces and their subsequent integration into the urban fabric is not only a measure towards environmental sustainability and resilience, but it can also serve as a measure to solve social conflicts as public spaces in underdeveloped areas are places for social encounters and sports and recreation activities.

Another point to underline in contemporary practices for the design of public spaces, related to "Critical Heritage Studies" and to the protection of urban and cultural landscapes, is the planning of public spaces in areas with a significant number of historical buildings and monuments as a measure that allows the better understanding of the city's landscape. In dense urban areas historical buildings and monuments cannot be usually identified as next to them are built contemporary buildings, while narrow streets block the view towards the buildings. Public spaces like squares and small parks as well as large streets that are easily crossed by pedestrians, which are found in front of historical buildings and monuments, seem to improve the inhabitants and visitors experience in understanding the different historical eras of cities. Taking this into consideration, our third hypothesis is that the planning of public spaces in historical cities' districts, characterised by their unique urban, historical and cultural identities, could act as a measure for a new city-branding as they facilitate urban mobility by foot and bicycle and thus lead to a discovery of the cities' hidden urban past.

The analytic method was used in order to develop our strategy and model for the development of small and medium-sized cities facing socio-economic difficulties based on the design and planning of public spaces in neglected urban voids. The method proposes an experimental approach in the design of public spaces and their relationship with the surrounding urban environment based on the case study of "Xersonisos tis Panagias", a neighbourhood in the city of Kavala in Northern Greece. Our proposal was developed during an urban design studio named 'Public Spaces' at the School of Architecture of Democritus University of Thrace, which emphasises on the design of small public spaces in dense urban areas as measures that lead to urban sustainability and resilience. At the same time semi-structured interviews were conducted with local elected officials and inhabitants in order to take into consideration their needs and expectations for the development of their city. We suggested a development scenario for the city of Kavala, based on the reconversion and transformation of neglected urban voids as public spaces, which focuses on measures such as: 1) the increase of green spaces inside the city, 2) the use of bicycle in urban mobility as well as the mobility by foot, 3) the revalorisation of historical buildings, monuments and landmarks through the design of public spaces, 4) the planning of open-air spaces for recreation and sports activities as well as 5) the connection of the new public spaces in the 'Xersonisos tis Panagias' neighbourhood with the existing ones especially to the ones in strategic areas of the city of Kavala.

For the development of our scenario for the city of Kavala we took into consideration existing power dynamics of the city and the region of East Macedonia and Thrace in which administratively is part the city of Kavala. It is important to mention that the region of East Macedonia and Thrace is among the less developed at national (Greek) level and is characterised by deindustrialisation and the closure of local enterprises. Despite the above weaknesses of the region, the presence of Democritus University of Thrace (DUTH) in six cities of the region (Drama, Kavala, Xanthi, Komotini, Alexandroupoli, Orestiada), including Kavala, is among the strong points of the area as it brings people from other cities in a region affected by deindustrialisation and population decline. The ports in the city of Alexandroupoli and Keramoti, a small town in the outskirts of Kavala, the airports in the city of Alexandroupoli and Xrisoupoli, a small town in the outskirts of Kavala, as well as Egnatia Odos, a highway that

connects the north part of Greece with neighbouring countries create the conditions for the development of the cities of the region based on commercial and retail activities. We should also mention the presence of important natural parks inside the region, including three Natura Zones in Evros, Rodopi and Xanthi, which consist of its internal dynamics, and the presence of the Greek Muslim Community in neighbouring cities of Kavala (Xanthi and Komotini) posing challenges regarding the support of ethnic minorities and the enhancement of social cohesion through the design of public spaces.

The case study: the city of Kavala in Northern Greece and the 'Xersonisos tis Panagias' neighborhood

The city of Kavala is located in the north part of Greece, in the region of East Macedonia and Thrace, with an area of 351.35 square kilometres (Greek Statistical Institute, 2015). It is built near the Aegean Sea, close to the island of Thassos (Figure 1). Based on the 2021 population census, the Municipality of Kavala has 66,376 inhabitants (Greek Statistical Institute, 2021).



Figure 1. Kavala's location on the map of Greece. In detail the cities of the Kavala regional unit, whose capital is the city of Kavala, and the neighboring regional units. Source: Greece-map.net

As most of the Mediterranean cities it is affected during summer by heat waves while during the winter it is often affected by snowstorms originating from the north part of Europe. Kavala is characterised by its dense urban fabric and the absence of open green public spaces especially in the neighbourhoods that were built during the Ottoman era. We can distinguish the old city surrounded by the city's castle (Figure 2), built during the Ottoman Era and where it is located the "Xersonisos tis Panagias" neighbourhood, from the expansions built during the 19th and 20th century which are located near the city's harbour (Figure 3).



Figure 2. Kavala's waterfront. In the photo we can distinguish the city's castle in the back of the picture and city's harbour in the front. Source: www.travel.gr



Figure 3. Kavala's panoramic view. In this panoramic view of the city, we can distinguish in the right and left corner of the photo the contemporary city. At the centre we can see the 'Xersonisos tis Panagias' neighborhood, an urban area built during the Ottoman era, surrounded by a castle in order to keep it safe from pirates' attacks. Source: Alexandros Mpantogias

After the Greek Turkish War of 1919–1922, the city of Kavala entered a new era of prosperity and development due to the industrial and agricultural activities (Karagiannakidis and Likourinos, 2009). Kavala became greatly involved and developed further in the processing and trading of tobacco mainly with European countries (Theodoridou and Moustaka, 2013). Many buildings related to the storage and processing of tobacco from that era are preserved in the city and act as landmarks of the city's past. As most of the Greek cities, especially small and medium-sized, Kavala faces in the 21st century the consequences of deindustrialisation and the closure of local enterprises, despite the fact that the presence of university departments in the area increases the local inhabitants' incomes due to apartments' rentals.

"Xersonisos tis Panagias" neighbourhood is located in the city of Kavala in the region of East Macedonia and Thrace in Northern Greece, an area that maintains its physical and social characteristics since the era of Ottoman Empire and which is nowadays used as a space for recreation and leisure. The limited number of open green public spaces in the city of Kavala as well as the special characteristics of 'Xersonisos tis Panagias' are better represented on the following map (Figure 4) and photos where we can identify the relationship between open and built spaces. The 'Xersonisos tis Panagias' neighbourhood is characterized by its narrow streets, the absence of open green public spaces and the organic and dense urban fabric which better corresponded to the needs of city's inhabitants during the 18th and 19th century (Figure 5).

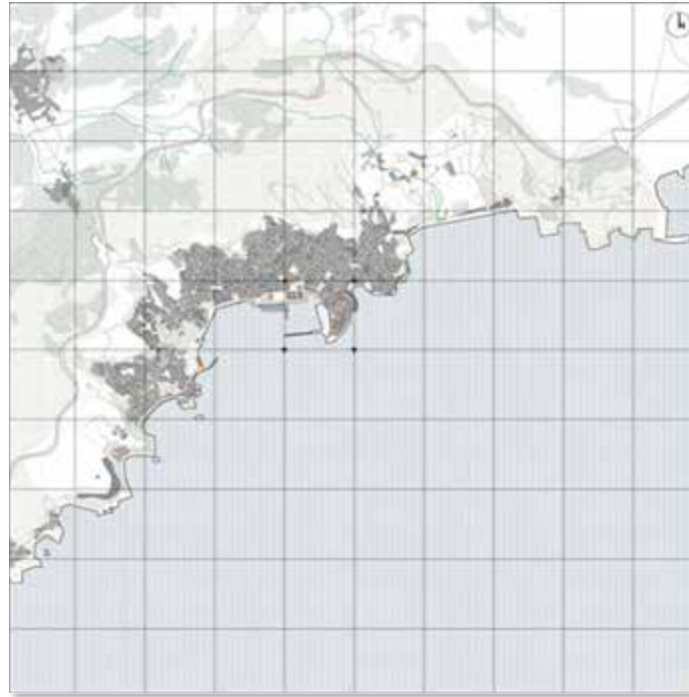


Figure 4. Kavala's built and open spaces. In this map, we can see that most parts of the city of Kavala are built, and the only unbuilt public spaces are around the city's harbour. Source: Alexandros Mpantogias



Figure 5. The 'Xersonisos tis Panagias neighbourhood' in the city of Kavala. In this photocollage, we can see the different urban characteristics of the neighbourhood where it is clear the absence of open green public spaces. Source: Alexandros Mpantogias

During our field research in the city and particularly in the 'Xersonisos tis Panagias' neighbourhood we identified several neglected urban voids, that are nowadays not well integrated into the city fabric, either because they are closed and not accessible, or because they are not well designed in order to accommodate open-air events for the inhabitants and visitors of the city (Figure 6).



Figure 6. Existing urban voids in the 'Xersonisos tis Panagias neighbourhood'. In the photo they are represented neglected urban voids in the 'Xersonisos tis Panagias' neighbourhood which were identified during the field research in the city of Kavala, and which were proposed to inhabitants, local authorities and students at the School of Architecture of DUTH for re-design as public spaces. Source: Varvara Toura

These voids are around the main street of the neighbourhood, Poulidou street, where we can also find small cafés and restaurants, several souvenirs shops for the tourists, monuments such as the Imaret, a building used as an orphanage during the Ottoman era and which is nowadays restored and reconverted into a luxury hotel, schools, small public spaces such as squares and local landmarks such as the lighthouse (Figures 7, 8, 9, 10).



Figure 7. Urban void closed to the Imaret building in the 'Xersonisos tis Panagias neighbourhood'. In the photo we can see a typical use of the unbuilt spaces or the neighbourhood as parking lots. Source: Varvara Toura



Figure 8. Urban void between two housing units in the 'Xersonisos tis Panagias neighbourhood'. In the photo we can see that nature in the form of grass and trees is present in certain urban voids of the neighbourhood.
Source: Varvara Toura



Figure 9. Urban void closed to a small café. In this case the urban void is found in an area of the neighbourhood that has designed public spaces such as a small square. It is clear the absence of designed spaces for parking the vehicles and for this reason urban voids, designed public spaces as well as Poulidou street are used as parking lots. Source: Varvara Toura



Figure 10. Urban void closed to Kavala's lighthouse. In our field research in the city, we observed several spaces such as schoolyards, which even if they are designed, they are not used due to their materials (concrete) are their internal organisation and functions. Source: Varvara Toura

The Poulidou street as well as the identified urban voids were part of our development plan for the city of Kavala which is based on the re-design of urban voids as public spaces and their re-integration into the urban fabric.

Outcomes-Results

The urban voids identified inside the 'Xersonisos tis Panagias' neighbourhood have different characteristics. Several of them are relatively big spaces such as the schoolyards, while the unbuilt spaces between existing buildings are considered as small spaces. At the same time in cases where the urban void is a private property there are fences and the space is not accessible. In other cases, such as the Poulidou street and existing small squares and parks which are nowadays not used by inhabitants as they lack urban equipment (benches, pergolas for protection against sun during summer), the spaces are public and accessible. We should also note the different importance of these urban voids, as in several cases they are located close to old buildings dating in the 19th century, which act as living memorials of the city's past, or to monuments such as Imaret, a building dating from the Ottoman era which is unique for its organisation in open and closed spaces. These urban voids are used in different ways. In several cases they are used as places for parking vehicles (they are not designed as parking lots, but they are rather spaces that inhabitants and visitors of the neighbourhood use to park their vehicles). In other cases, they act as small places for social encounters, especially the small squares and schoolyards which are used by young people and children in order to play or to practice sports. From the above spaces we distinguished the designed public spaces such as small squares and schoolyards as they could easily be re-designed and re-integrated into the urban fabric. Still, the analysis of the interviews with local elected officials and inhabitants revealed the necessity to reconsider these spaces according to sustainability and resilience criteria as they are closed spaces or not appropriately designed to accommodate social encounters and for these reasons they are not used by inhabitants and visitors of the neighbourhood.

Our proposal for the re-design of neglected urban voids in the 'Xersonisos tis Panagias' neighbourhood as public spaces included measures to improve the basic problems identified in the area which are measures for the presence of green spaces inside the city, for urban mobility (by bicycle and by foot), for the revalorisation of historical buildings, monuments and landmarks, for the planning of open-air spaces for recreation and sports activities and for the connection of the new public spaces in the 'Xersonisos tis Panagias' neighbourhood with the existing ones especially to the ones located in the harbour of Kavala. The activities and equipment inside the old and new public spaces were decided together with the inhabitants of the neighbourhood in order to foster the dialogue between professionals and citizens and to create the conditions for the public acceptance of our development plan for the city of Kavala. The basic idea was to propose rather simple solutions that could be easily adopted and built by the Municipality of Kavala and to avoid complicated and expensive technical measures. The materials and the vegetation that were proposed (wood, stone, ceramic tiles, pine trees, plane trees) they are all local in order to reduce the cost of the project in an area facing significant socio-economic difficulties.

Concerning mobility measures, we have already mentioned that most of the urban voids of the neighbourhood are used as parking lots for the vehicles of inhabitants and visitors while at the same time the main street of the neighbourhood Poulidou does not have pavements as the neighbourhood was built before 1923, the year of changes in urban planning regulations in Greece (Figure 11).



Figure 11. Existing streets in the 'Xersonisos tis Panagias' neighbourhood. The spaces that are used as informal parking lots are marked in grey colour. We can note that Poulidou street as well as most of the urban voids of the neighbourhood are nowadays used as parking lots and thus do not allow social encounters for the neighbourhood's inhabitants. Source: Alexandros Mpantogias

This means that inhabitants and visitors of the neighbourhood have difficulties crossing streets by bicycle or as pedestrians. Our main strategy was to propose the redesign of several main streets of the neighbourhood as Dutch Woonerfs, including Poulidou street (Figure 12).



Figure 12. Proposal for the redesign of Poulidou street as a Dutch Woonerf. Trees, pergolas and benches can be found in the new design of the street creating the framework to boost social and environmental sustainability conditions, while small areas of the street are used for parking vehicles. Source: Alexandros Mpantogias

The Woonerf design solves the problems of traffic, pollution and safety by transforming urban streets into shared green spaces (small urban parks) where pedestrians and vehicles can actually co-exist in an optimal balance. Through it, they can be improved local community's quality of living and road safety in the city. The redesign of the main street of the neighbourhood, Poulidou, as a Woonerf allows the expansion of the public spaces on the street level, where vegetation and urban equipment create social and environmental sustainability conditions.

The 'Xersonisos tis Panagias' neighbourhood is among the older neighbourhoods of the city characterised by its buildings which dated on the 19th century. At the same time as the neighbourhood was developed in different

eras (byzantine-ottoman-1923 and onwards), we can find significant monuments such as the Imaret building which was used in the Ottoman era as orphanage and local landmarks as the lighthouse (Figure 13). Nowadays, the main problem in the observation of the city's landscape is the difficult identification of the local landmarks and monuments as they are located too close to contemporary buildings or in closed and not accessible spaces. Several of them, like the local lighthouse, are not accessible to inhabitants and visitors as they are part of closed spaces.



Figure 13. Existing land uses in the 'Xersonisos tis Panagias' neighbourhood. In orange and light brown colour are represented the landmarks and monuments of the area. The organic and dense urban fabric dating on the Ottoman era as well as the construction of new buildings since 1923 does not allow nowadays the observation and identification of landmarks and monuments. Source: Alexandros Mpantogias

In our strategy for the revalorisation of these spaces we considered that the notions of sustainability and resilience are connected to an urban landscape where all phases of the city's history are present and repurposed alongside contemporary needs (small commercial and recreation activities). The redesign of the exterior and interior open spaces of landmarks and monuments (Figure 14) by proposing suitable vegetation (tall trees) and urban equipment (pergolas and benches) highlights the unique historical characteristics of the above spaces and offers a different experience in the discovery of the city.

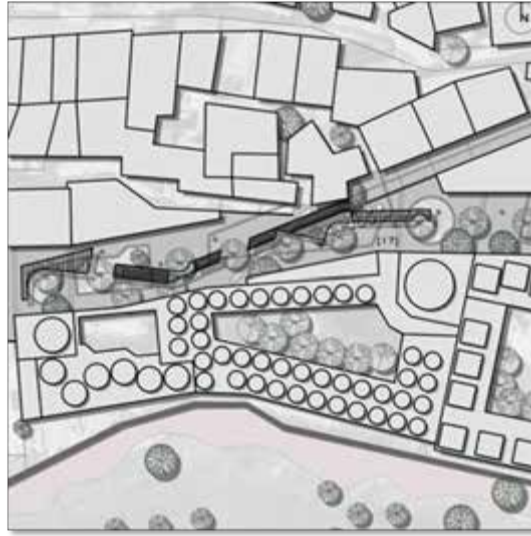


Figure 14. Proposal for the redesign of the exterior open-air spaces of the Imaret Building. Even though Imaret is nowadays restored and transformed into a luxury hotel it is still considered as a landmark of the city and a monument showing the design of public buildings during the Ottoman era. The redesign of the public space outside the building focused on creating a space from which inhabitants and visitors of the neighbourhood would observe the building's main façade while the proposed urban equipment (pergolas and benches) allows the organisation of small festivities by inhabitants. Source: Alexandros Mpantogias

As we have previously mentioned the city of Kavala and particularly the 'Xersonisos tis Panagias' neighbourhood have a limited number of open green urban spaces compared to the city's-built spaces (Figure 15). The city's organisation and the land uses in the 'Xersonisos tis Panagias' neighbourhood resulted from the arrival in the region of East Macedonia and Thrace of refugees from Anatolia region after 1923 (end of Greek-Turkish war) which had as a result the increase of housing needs. In the years following the Second World War and especially in the late 1970s the city expanded in the areas near the harbour affecting also the unbuilt urban spaces in the 'Xersonisos tis Panagias' neighbourhood. The city's limited number of open green urban spaces has as a result the increase in local temperature during summer. We should also note the difficulties that face the inhabitants and visitors of the 'Xersonisos tis Panagias' neighbourhood during summer, regarding the use of the existing open public spaces as there aren't many trees or pergolas in order to lower the temperature.



Figure 15. Existing open green urban spaces and trees in the 'Xersonisos tis Panagias' neighbourhood. The primary note from the analysis of the map of open green urban spaces is that their presence in the 'Xersonisos tis Panagias' neighbourhood is around landmarks and public buildings such as schools and the local lighthouse. On the contrary in areas with private buildings (housing units) we can note only the presence of several trees in streets. Source: Alexandros Mpantogias

During the discussions with local elected officials and inhabitants we noted their willingness to increase the presence of trees and vegetation in the area as they could improve air quality and act as a natural protection during the heat waves in summer and rain and snowstorms in winter. At the same time in Agenda 2030 and in studies of Jahn Gehl it is mentioned that the presence of open green spaces in an urban area could act as measures for improving inhabitants' well-being resulting from the improvement of air and water quality (Gehl, 2010 and UN, 2015). For this reason, it was important to suggest in our development plan the redesign of the public spaces of 'Xersonisos tis Panagias' neighbourhood based on the increase of plants and trees as measures against climate change and extreme weather conditions especially in summer. We should remind that Kavala is located in the Mediterranean region, close to the sea, and is affected in summer by extreme heat. At the same time pergolas were proposed in several areas of the neighbourhood, including the Poulidou street and schoolyards, that are exposed to sunlight in order to lower temperature during summer (Figure 16).



Figure 16. Proposal for the redesign of an existing small square in the 'Xersonisos tis Panagias' neighbourhood. The former design of the square did not include a significant number of tall trees and affected social encounters during summer due to weather conditions. Our proposal included pergolas in areas exposed to sunlight and tall trees in areas that inhabitants use for social encounters. Source: Alexandros Mpantogias

Another problem identified during our field research in the city of Kavala is the disconnection between the different public spaces of the city and especially to the ones located in the peninsula of Kavala which is consisted in its upper part by the 'Xersonisos tis Panagias' neighbourhood and the city's harbour in the lower part. The existing stairs that connect the public spaces of the peninsula were built by the inhabitants in former decades based on their need to have access to the city's harbour and sea. This need was highlighted during the interviews with the inhabitants as well as their thoughts about a safer way to connect the public spaces of the peninsula based on contemporary technical standards. In our development scenario we proposed a vertical connection between the public spaces located in the peninsula of Kavala, the connection is located near the city's lighthouse, in order to facilitate mobility, to increase the number of open public spaces (the vertical connection is a form of public space) and to allow the circulation of air and sunlight in an area (schoolyard) that is nowadays closed (Figure 17).



Figure 17. Proposal for a vertical connection of public spaces of the peninsula of Kavala. The vertical connection is proposed in an area with a significant architectural and historical value and for this reason our basic concern was to propose a solution based on the above special features. The proposal includes the creation of a small balcony in order to increase the area of the public space of the city's lighthouse and a small staircase which will be used by the inhabitants when they want to reach the public spaces in the city's harbour.

Source: Alexandros Mpantogias

Sustainability and resilience are nowadays connected to recreation activities and sports practice as human health and well-being are among the goals of the Agenda 2030 of the United Nations (UN, 2015). The main problem that we identified during our field research was the absence of recreation and sport facilities in the 'Xersonisos tis Panagias' neighbourhood, which could facilitate social interactions and inhabitants' well-being. Inhabitants of the neighbourhood and particularly teenagers and families with young children have expressed during our interviews their need for spaces where they could practice sports or use them in order to organise open-air festivities. During our field research we also noted that inhabitants and visitors of the neighbourhood face difficulties using existing sport facilities, as they are often located in closed spaces (schoolyards) and they are not well maintained. In our development scenario for the 'Xersonisos tis Panagias' neighbourhood and the city of Kavala we considered human health and well-being as key elements of urban sustainability and resilience and for this reason, we suggested the redesign of existing closed (there is a fence around them) open-air spaces like schoolyards as public spaces (Figure 18). This measure, the planning of open-air spaces for recreation and sports activities, could potentially increase social encounters and improve the health and well-being of inhabitants and visitors of the neighbourhood.

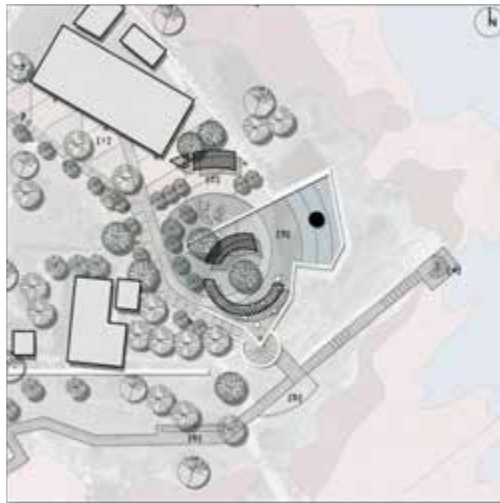


Figure 18. Proposal for the redesign of a schoolyard where it is located Kavala's lighthouse. The existing schoolyard is a closed space not well integrated into the city fabric. The use of concrete in an open-air public space increases temperature during summer, thus not allowing the practice of sports. The schoolyard is designed as a public space for all inhabitants, not only young people, by proposing a small playground for young children and equipment for open-air sports practice. In the same space we can also find pergolas and tired seating which could be used by the inhabitants for organising open-air festivities. We should also note the suggestion for tall trees and plants as natural protection for sunlight and heat during summer.

Source: Alexandros Mpantogias

Discussion

The study of a real-world setting with particular characteristics (socio-economic difficulties, small number of public spaces) revealed the necessity to consider the planning of public spaces in poor small and medium-sized urban areas as a transformative agent which seeks to contribute to a more liveable urban future by combining measures of social and environmental sustainability. Public spaces could act as agents of inclusive and sustainable urban transformations when local elected officials and inhabitants work together with researchers and practitioners in their design processes and try to find solutions that fit not only to technical standards but also to the needs of communities. It is important to mention that this democratic procedure, which can sometimes take the form of co-design and co-production and not only inhabitants' consultation, in small-scale public spaces' projects acts as an urban laboratory for the design and testing of solutions that could later be implemented at city level (the design methodology and planning tools in a small park could also be used in the design of a big park or central square). As we have mentioned in a different section of the paper, the cost of operations in public spaces is an issue to consider when proposing development scenarios in small and medium-sized cities facing socio-economic difficulties. The discussions with local authorities and especially with the inhabitants allow to propose policies and measures that are closer to their expectations and needs, while the socio-economic analysis of the local urban context allows to adjust these policies and measures to the economic dynamics of the city. Good design of public spaces does not mean expensive and complicated technical solutions but rather proposals inscribed in the local social, economic, environmental and cultural urban context.

Another issue to further consider through the design of public spaces and their role in cities' development is urban identity. We saw in the analysis of the case study and the subsequent proposal for 'Xersonisos tis Panagias' public spaces that the particular characteristics of the urban landscape are reflected in the design of public spaces. Historical buildings, monuments and landmarks that have shaped the cities' history are not only living memorials of the different eras of the cities but are also vital elements for contemporary urban life as they are often restored and reused. Their easy identification on urban fabric, achieved through the design of neighbouring public spaces who should be opened and accessible, has as a result a different experience

in cities' discovery by locals, researchers and visitors. Through these planning policies on public spaces, they could be identified significant cities' districts and define around them protection zones in order to protect them from mass-tourism and overscale construction projects that seem to not respond to the cultural and historical characteristics of these urban areas. On the contrary small-scale economic activities such as shops could be found inside these zones as they are necessary for inhabitants (groceries, bakeries). In cases of cities with a high unemployment rate these small-scale economic activities could also serve as measures for facing the difficulties in the local economic context.

To go further on the field of urban sustainability and resilience and the relationship between built spaces and open public spaces we should underline that measures and policies in favor of nature's integration into the urban fabric should be proposed and implemented in dense urban areas based on the local characteristics of each area (urban, environmental, social, economic) to effectively propose solutions that benefit local communities. These measures and policies should put forward the relationship between the built environment and open public spaces and try to find a balance between them in order to improve socio-economic and environmental conditions. At the same time designers, practitioners and local authorities should carefully consider that the integration of the natural element in the design of public spaces, when it is carefully planned, could have positive effects on the temperature inside cities and water and air quality. Public spaces design, organisation and functions based on environmental sustainability criteria could reshape urban areas of the Mediterranean region that are exposed to extreme weather conditions (heat waves) during summer. For this reason, it is important to consider the design and planning of public spaces as a process inscribed in the fields of urban sustainability and resilience as open public spaces like squares and parks serve also as places for social encounters that boost citizens' health and well-being and solve social problems.

In many cases of deindustrialised cities, and especially in small and medium-sized cities of this category where the local economy is primarily based on industrial activities, social problems appear after their deindustrialisation related to the high unemployment rate. This local economic context combined with the loss of local population who moves in other areas in order to find work has as a result the recession of certain urban areas who are trying to find a new identity (social, economic, cultural) in order to increase their population and improve the living conditions of the local population. Public spaces could play a key role in the development strategy of these cities, as we have previously seen in the case study of Kavala a medium-sized city affected by deindustrialisation and the loss of local population. The creation of community conditions (people who have the same goals and needs), in urban districts that are most affected by economic recession, could be achieved through the design of public spaces as these spaces act as places for social encounters where people with different social and ethnic backgrounds gather and spend time with other people. The organisation of festivities and small cultural events in public spaces by the inhabitants of these districts, could serve as a means to bond their relationships and act together in issues related to social, economic and environmental policies of their municipalities. At the same time the design of public spaces in a way that helps the practice of sports (human health) and the organisation of small cultural events by the inhabitants (recreation activities that boost human well-being) are part of the Agenda 2030 (UN, 2015) and should be taken into account by practitioners and local elected officials in order to create inclusive and sustainable urban conditions in areas facing socio-economic difficulties.

Urban mobility is also a question related to the design of public spaces as it affects the form and functions of cities as well as inhabitants' health and well-being. Public spaces and urban mobility are intertwined concepts that significantly impact urban planning and sustainable development. Public spaces, such as parks, streets, and squares, serve not only as gathering places but also as crucial components of the urban mobility landscape. They facilitate movement and connectivity, shaping the daily experiences of city dwellers. The sustainability of urban environments relies heavily on the relationship between mobility and public spaces. Walking and cycling contribute to reducing carbon emissions and congestion, making urban areas more liveable. Integrating green transportation options, such as bike lanes and pedestrians' zones, into the public space design can facilitate this shift towards a sustainable mobility model. Urban planners and researchers often face the challenge of balancing the competing needs of mobility and public space usage. For instance, reducing the traffic of vehicles in

favour of pedestrian-friendly routes can improve the experience of public spaces, but it may also raise concerns about accessibility for those reliant on cars. Measuring the sustainability of public spaces and mobility systems remains a complex task. New and existing sustainability indicators need to account for the multifaceted impacts of urban design in public spaces, such as social engagement, environmental resilience, and economic viability especially for small and medium-sized areas facing socio-economic and environmental difficulties.

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