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The project “Preserve” and the related policy of the Hellenic Ministry of Environment and Energy for the protection of tangible Cultural Heritage

Konstantina Siountri ^{a,b}, Avgi Vassi ^{a,c}, Kalliopi Papadaki ^a, Maria Poulou ^a,
Efthymios Bakoyannis ^{a,c}

^a General Secretariat of Spatial Planning and Urban Environment, Ministry of Environment and Energy, Athens, Greece

^b Cultural Technology and Communication Dpt., University of the Aegean, Mytilene, Greece

^c Department of Geography and Regional Planning, School of Rural and Surveying Engineering, National Technical University of Athens, Athens, Greece

ksountri@aegean.gr, avg.vassi@gmail.com,
arc.kalliopi@gmail.com, mariapoulou40@gmail.com
ebako@mail.ntua.gr

Abstract : Nowadays, due to economic crisis, the number of "abandoned", empty or dilapidated listed or historic buildings of Greek cities and settlements is constantly increasing. In order to protect and enhance the Greek tangible cultural heritage, it is necessary to promote actions that give motives to owners or users of historic buildings to preserve them, by providing tools and financial support in the particularly increased costs of restoration and consolidation works of their necessary continuous maintenance.

The program “Preserve” introduced by the Hellenic Ministry of Environment and Energy, and more specifically the General Secretariat of Spatial Planning & Urban Environment, relates to interventions in designated as listed or monuments or buildings within historic sites and traditional settlements and historic buildings. The interventions will include facade cleaning (with gentle water jet to remove air pollutants or anti-graffiti painting for protection against vandalism), works in order to preserve the shell of the buildings so as to avoid its partial or total collapse, restoration of facades and restoration of the interior of the buildings.

Along with the activation of the Digital Land Bank, the Building Rights Transfer, the Single Digital Map, and the Digital Building Identity etc., it will offer the owners of the listed buildings a holistic solution for the protection and enhancement of the tangible cultural heritage of Greece.

Keywords: Cultural Heritage, Built Environment, preservation, digitization

1. Introduction

In Greece there are numerous of cultural architectural monuments all over the country that are recognized internationally as achievements of special historical and artistic value. However, the irreparable destruction of a huge part of our national architectural heritage is, unfortunately, an indisputable fact during the last decades. Especially after the financial crisis in Greece, tens of thousands of owners of listed traditional and historic buildings are unable to maintain their property. Most of them cannot use the available financial tools as there are restrictions (i.e. the conversion of the building to hotel) that set the required interventions difficult and demanding.

However, the dynamics and the importance of the architectural heritage in many fields (tourism, culture, creative economy, education, etc.) [1] require responsible actions for its protection, preservation, and enhancement, by the citizens and by the State. Moreover, addressing the challenges caused by climate change, the sustainability of cities and rural areas has emerged as one of the most important issues for the present and the future of human society [2].

For the aforementioned reasons, the need to preserve, protect and reuse the rich architectural heritage of Greece is further dictated by the necessity to prevent the further deterioration of the urban environment. Taking into consideration this need, a new program with integrated actions for the restoration, consolidation and renovation of cultural heritage buildings has been introduced by the Hellenic Ministry of Environment and Energy.

The scope of the program is the protection and enhancement of the tangible cultural heritage of Greece and more specifically of listed and historic buildings through a financial tool addressed to the owners or direct beneficiaries of these properties entitled as "Preserve".

The program "Preserve" for the consolidation and restoration of historic buildings aims to assist in restarting the economy by utilizing the available building capacity in city centers, where values (financial, tourist, etc.) are very high. The program will be funded by NSRF 2021-2027 (EU funds) resources, with the ambition to institute a financial instrument of support for maintenance, conservation and restoration of the significant building stock of Greece.

Finally, the activation of the Digital Land Bank, the Building Rights Transfer, the Single Digital Map, and the Digital Building Identity etc. will offer the owners of the listed buildings a holistic solution that for the first time after decades, activates mechanisms and financial tools as a unique opportunity for immediate economic recovery and long-term protection of our rich cultural heritage.

2. State of the Art

The economic, social, and cultural value of historic buildings besides their significant contribution to sustainable development is globally recognized. The historic centers and settlements attract visitors from all over the world, who are willing to pay a high cost of travel and high cost of accommodation to visit them, while creating em-

ployment opportunities and economic development. The demand for real estate for the above uses is increased and is particularly associated with the use of emblematic buildings, due to their increased aesthetic quality and for symbolic value, as these buildings testify the history and evolution of cities and settlements [3]. However, most of these buildings are abandoned and often dilapidated as they are not easy to be restored or functional, due to the increased cost of the relevant works, and as their demolition is not allowed (due to their "designation" as listed). Then, a vicious circle is created that "blocks" the economic development in the urban centers, and the utilization of the properties for the direct benefit of their owners or buyers.

On the other hand, interventions for the protection of listed or historic buildings are a direct measure to stimulate economic activity, both in the construction industry and in the production of construction materials, contributing significantly to the strengthening of the domestic market [4].

In addition, a large part of these properties is located in areas with increased real estate and investment interest (island and mainland traditional settlements). Indicatively it should be mentioned that from Greek Statistical Authority (ELSTAT) inventory data, in Greece 154,006 buildings before 1919 have already been recorded and counted, 324,701 buildings during the construction period 1919 - 1945, most of which concern city centers (in the 3 largest urban centers there are about 12,000 historic buildings). Also, out of the 4,105,637 buildings in Greece, 478,707 buildings were constructed before 1945. That constitutes the 11.67% of the building stock of the country [5]. According to an estimate of the General Secretariat for Spatial Planning and Urban Environment, the Ministry of Environment and Energy is responsible for 10,100 listed buildings, the Ministry of Environment for 8,500 buildings, the Ministry of Macedonia Thrace for 1,200 buildings and the Ministry of the Aegean for 1,000 buildings. About 600 of them are dual characterized. In total there are about 20,200 buildings. The traditional settlements in Greece characterized by legislation by the Ministry of the Environment and Energy exceed the number of 830.

Many of these buildings are in bad condition with severe structural pathology. According to the recent census - until 12-01-2021 - of the Ministry of the Environment and Energy in 127 Municipalities out of the 332 in Greece, 10,416 dangerously dilapidated buildings have been registered that set the public safety imperative through immediate consolidation works or restoration interventions.

It is therefore obvious that there are too many eligible buildings which can be funded with immediate financial results for the market, ensuring the safety of residents and passers-by, especially in a seismogenic country such as Greece.

2.1 The Hellenic Ministry of the Environment and Energy

The Hellenic Ministry of the Environment and Energy and more specifically the General Secretariat for Spatial Planning and Urban Environment is responsible for the protection and management of newer tangible cultural heritage in Greece, besides the Hellenic Ministry of Culture [6]. It provides specialized legislative coverage at the urban and building level, to the traditional settlements, to the historical centers of cities, and areas of particular urban interest. Individual buildings or parts of buildings or complexes of buildings can be characterized as listed buildings by Ministerial deci-

sions that specify special protection conditions and use restrictions.

The criteria for these decisions are the remarkable morphological and architectural elements, due to location, due to scale or completion of a whole. Also, the General Secretariat is responsible for the archive of traditional settlements and listed buildings that were evaluated by the competent service of the Ministry and are protected by Presidential Decrees or Decisions of the Minister of Environment and Energy [7].

2.1.1 The Building Rights Transfer tool and Digital Land Bank

Additional measures and motivations for the protection of architectural heritage such as the development of Rights Transfer Zones (RTZ) of the building is under the competence of the General Secretariat for Spatial Planning and Urban Environment.

The Ministry of the Environment and Energy through its recent legislation [8], activated two very important tools, the Building Rights Transfer and the Digital Land Bank which will function as a complementary policy with immediate benefit. To date, Rights Transfers have been issued from listed monuments and properties corresponding to over 1,100,000 sq.m., while the titles that correspond to 450,000 sq.m. are available, the value of which is estimated to exceed 185 million euros. At the same time, the Digital Earth Bank creates the necessary but simple mechanism in order to make it possible to transfer the building rights from supply properties to building factor receiving properties, organized in the Rights Transfer Zones (RTZ). It is pointed out that there is an equally high demand for "purchase" rate, and especially for investors in Spatial Development Plan of the Public Real Estate (ESHADA), owners of arbitrary with very large arbitrariness (category 5) who have settled for 30 years and must buy a building rate to legalize them - if in the area the urban planning has been completed (estimated number 400,000 buildings).

The plans of Rights Transfer Zones (RTZ) will define areas within the urban space in which a building coefficient transfer will be possible from a property outside the Zone to a property located within the Zone, which will function as the receiver of the building coefficient that cannot be used by the other property. Defining these zones will make it possible to create public spaces in densely populated cities at low cost and at the same time will release the owners of thousands of land-plots or listed buildings from the constraints caused by the "special" characteristics of the properties and / or of the areas where these properties are located (e.g., historic centers) and will give a new impetus to construction activity (especially in reception areas / zones).

2.1.2 Abandoned and vacant properties

The Ministry of Environment and Energy is examining the draft law concerning regulations for abandoned and vacant properties as well as the intervention procedures for their restoration and reuse.

From Greek Statistical Authority (ELSTAT) inventory data [5], of the total 6,384,353 private houses, there are 163,759 that were built before 1919, the 74,905 were inhabited and 88,854 were vacant. For the period 1919 - 1945 construction, there are 318,372 houses, of which 159,675 were inhabited and 158,697 were vacant. For the period 1946 - 1960 construction, there are 605,693 houses, of which 372,963 were inhabited and 232,730 were vacant. For the period 1961 - 1970 construction, there

are 1,002,902 houses, of which 676,960 were inhabited and 325,942 were vacant.

The institutionalization of the appropriate framework will enable the activation of the private sector and the undertaking of initiatives for interventions and projects of abandoned or empty buildings with multi-property status, under conditions of legal certainty and with fast procedures.

It also studies the promotion of Public-Private Partnerships (PPPs) with the development of a financing mechanism for private and public real estate using – the at least possible - recyclable financial resources, coming from the NSRF and private resources.

The implementation of the above interventions and projects will aim at the improvement of the public space in selected areas, and definitely within the areas of application of the previously mentioned, second action.

In order to apply the above, the following procedure is necessary:

- Investigation of existing problems. Creation of a digital repository of abandoned and dangerously dilapidated buildings
- Preparation of legislative proposals for abandoned and vacant with unknown owners' buildings, as well as intervention procedures in selected areas with degraded building stock
- Legal and technical approach to the proposals.

2.1.3 Local Urban Plans, the Special Urban Plans, and the Strategic Urban Interventions

The programs of the Local Urban Plans, the Special Urban Plans and the Strategic Urban Interventions will be funded by the Recovery and Resilience Facility (RFF) [9] and will start in 2022 and will end in 2026. Due to the RFF, European Member States will be able to cope with the economic and social impact of the COVID-19 pandemic, while at the same time their economies will focus on green and digital policy to become more sustainable and resilient.

The Local Urban Plans (LUPs) and the Special Urban Plans (SUPs) are the main urban planning tools in Greece and through them are defined and endorsed (in their reference territory): land uses, building terms, regulations and restrictions, residential areas (existing settlements, plan extensions or new developments) which may also include private urbanization schemes, delimitation of settlements, definition of protection areas, areas for the development of productive activities, important urban planning interventions, the development of Rights Transfer Zones (RTZ) (Fig.1), areas of special urban incentives (e.g. to facilitate the allocation of large investments), road network, transport, construction and environmental networks and infrastructure, measures to adapt to climate change, measures to support emergencies and manage the consequences of natural and technological disasters and other threats, and any other measures, conditions or restrictions required for the integrated spatial development and organization of the reference area.



Figure 1. The Local Urban Plans (LUPs) and the Special Urban Plans (SUPs) are the main urban planning tools for the development of Rights Transfer Zones (RTZ) and the Building Rights Transfer Tool.

The Local Urban Plans (LUPs) and the Special Urban Plans (SUPs) are important tools for the protection of cultural heritage, which will reduce arbitrary and unregulated construction and delimit special protection zones i.e. traditional settlements, historic sites, archaeological sites, Natura regions etc.

The program Strategic Urban Interventions includes a wide range of projects in the existing urban space with various characteristics, but with the end result the upgrade of this space not only from an aesthetic point of view but also in terms of its economic, environmental, functional and social revitalization. Interventions in urban areas of Greece, which incorporate elements of special cultural and / or environmental importance and can function as "urban landmarks". The program focuses on implementing projects of upgrading of the public space and the building stock with the use of smart and bioclimatic technology, the restoration and enhancement of cultural heritage elements and / or monuments, etc. within the urban web.

2.1.4 Single Digital Map

The Single Digital Map can be a key "pillar" of the digital advancement and transformation of public administration in particular - and of the country as a whole, as it will be provided directly and to all, high quality services without the need for physical presence in the respective public services, thus saving resources and time.

The related Joint Ministerial Decision [10] describes the procedures of compilation, distribution and maintenance of a Single Digital Map but also its observance, information and operation. Specifically, this is the creation of a single digital platform, common to all public administration and citizens, which will provide all the necessary geospatial data for the licensing of any type and size of investment.

To be precise, those interested will be able to see building conditions and restrictions, land uses, city plans, road and building lines, cadastral parcels, forests and forest areas (only if they are included in ratified and finalized forest maps), Natura 2000 network or special habitat protection areas, coastal, beach and port areas, waters, streams, wetlands, riverside and large lakes, archeological sites or historic sites, traditional settlements, historic sites or protected areas, special plans activities, including special spatial development plans (such as the Spatial Development Plan of the Public Real Estate - ESCHADA).

2.1.5 Digital Building Identity

The purpose of the Digital Building Identity is to capture the current condition of the building or shared property and their permits, as well as to monitor and control their changes during their lifetime. The Digital Building Identity will put an end to new arbitrariness and will shield the property of citizens, but also has a general utility, as an information infrastructure for all the forms of spatial planning in the country. In addition, the Digital Building Identity will develop synergies and will eventually be interconnected with other information infrastructures that are in the process of creation, such as the Land Register and the Single Digital Map. This creates a permanent system for monitoring the construction, but also the changes in historic buildings throughout their life.

2.1.6 Repository of Protected Buildings and Areas

The Repository of Protected Buildings and Areas of the Ministry of Environment and Energy, (including the listed buildings and traditional settlements of the Ministry of the Aegean and the Ministry of Macedonia and Thrace) will be designed to have interoperability with:

- a) The Electronic Identity
- b) Other collections, libraries or repositories e.g. National Archive of Monuments of the Ministry of Culture, Europeana etc. using linked open data
- c) The future repository of BIM (Building Information Modeling)
- d) Applications such as e.g. GIS
- e) The digital repository of abandoned and dangerously dilapidated buildings.

Also, the use of crowdsourcing data of intangible cultural heritage information related to the listed buildings is examined (required by Heritage BIM - HBIM).

2.2 Description of the program “Preserve”

The current image of "abandoned", empty or dangerously dilapidated listed or historic buildings is constantly increasing in the historic centers of Athens and other cities and settlements of our country. The Constitution of Greece (article 24) as well as the Convention for the Protection of European Architectural Heritage (Granada Convention) which was unanimously ratified by the Greek Parliament with Law 2039/1992 [11] provide for the financial participation of the State in the particularly increased costs of restoration works and reuse or change of use and the necessary continuous maintenance of historic buildings.

For this reason, the creation of a new financial tool (program) entitled "Preserve" is proposed that will be included in the new NSRF 2021-2027. The new program applies mainly to property owners, professional sectors such as designers, manufacturers, suppliers, etc. and companies that operate with cleaner energy (traditional materials) in more than 5.500 buildings.

The program will involve interventions in:

- designated as listed or monuments
- historic buildings within historic sites, historic centers, and traditional settlements.

The interventions will include the following actions:

a1) Facade cleaning with gentle water jet for the exterior artificial coating of the interwar buildings to remove air pollutants or anti-graffiti painting for protection against vandalism.

a) Consolidation works in order to preserve the shell of the buildings - fixing openings, repairs to the tiled roof, etc - so as to avoid its partial or total collapse e.g. due to the inflow of water, due to damages of seismic activity or due to corrosion of construction materials.

b) Restoration of the shell of buildings (facades and roof). Restoration of foundations, masonry, roof, coatings, balconies, plastic decoration, replacement of frames, repair of metal elements, etc.

c) Restoration of the interior of the buildings - restoration or reinforcement of wooden floors, restoration of stairs, changes in the partition for functional reasons.

For the eligibility of the interventions, it is necessary the electronic submission of all the necessary supporting documents e.g. contracts, leases, consent of the owners, Government Gazette for the characterization of the property / settlement or part of the city where the property is located, proof of implementation of necessary studies per sq.m. and the necessary Building Permit of the competent Service.

The Ministry of Environment and Energy has already received the intense investment interest for the restoration for the development of relevant real estate, through the sending of letters of expression of interest for the creation of a relevant financial tool. Indicatively, the letters from collective bodies (i.e. Panhellenic Federation of Property Owners, Association of Greek Tourist and Travel Agencies, Association of Real Estate Agents Athens - Attica), Social Partners (SETE- Association of Greek Tourist Enterprises), NGO's as well as companies. The Program is also supported by a letter from the International Secretariat of the European Organization of EUROPA NOSTRA, through the Secretary General. Sneška Quaedvlieg-Mihailović, who refers to the Program as "exciting and innovative for Greece and the entire European Union" and continues "PRESERVE is therefore a call that could be reproduced in many EU countries, as a pioneer project that gives the chance to regenerate private historic buildings in a mass scale and help them to become resilient in times of rapid changes".

2.2.1 Previous Experience

The Hellenic Ministry of the Environment and Energy has taken similar initiatives in the past. The "Program of aesthetic restoration - maintenance of buildings on roads and areas of Olympic interest" was officially announced by the political leadership of the Ministry was enacted in 2002 [12] and began to be implemented on 30.6.2003. The project with the final title "Aesthetic upgrade program of building facades /

Implementation proposal with co-financing (PDE - individuals)⁷² " provided the

⁷² The basic institutional framework was supplemented with the JM No. 21585/2003 (Government Gazette 734 BD / 10.6.2003) - while some additional individual regulations with Law 3212/2003 (Government Gazette 308 A / 31.12.2003) - and the whole process and the conditions for the inclusion in the Program, the subsidized works, as well as the corresponding

possibility of a private subsidy from the State or the relevant local authorities for the restoration and maintenance of building facades. The construction works that were subsidized were mainly the cleaning / painting of the external surfaces of the buildings, the railings and their external frames with the obligatory removal of the individual TV antennas, their replacement with a central antenna and the removal of the illegal advertisements and professional advertisements. There was interest in subsidizing 1,368 buildings in the areas mentioned above. Finally, they proceeded and completed the relevant work within the deadlines set by the owners of 834 buildings. The State paid for the specific action total credits amounting to €5,065,449, of which € 63,030 related to a cost of publicizing the program. The average amount of the grant per building amounted to € 5,998.

2.3 Impact on Employment, Economy and EU Strategies

The preservation and enhancement of our cultural heritage is beneficial for historical and national reasons, as they testify to the achievements of the Greeks in the past centuries under adverse conditions. In addition, it is beneficial for reasons of economic and tourist development.

The proposed "Preserve" program of the Ministry of Environment and Energy is a direct measure to stimulate economic activity, contributing significantly to strengthening the domestic market, both in the construction industry and in the production of construction materials, contributing significantly to the strengthening of the domestic market. Several new job positions will be created both locally and nationally, in order to support the elaboration of studies, construction projects (engineers, designers, workshops, etc.), the production of products (eg frames, coatings, plastic decoration, tiles, etc.) and the management of actions to achieve the goal of upgrading and protection of buildings.

This financial tool aims to the protection and upgrading of historic properties, especially in areas with increased real estate interest (island and mainland traditional settlements, urban centers such as Athens, Thessaloniki, Piraeus, etc.). Through the program the wider urban web will emerge, creating new added values, not only in the properties that will be included in the program, but also in their indirect or direct environment. Also, since the problem of dilapidated and abandoned buildings degrades the whole of a neighborhood, the immediate actions towards the problem will provide a solution not only in terms of public safety but also in the purchase value of the neighboring properties.

The financial impact of the consolidation measures and aesthetic upgrading interventions is directly linked to utilization and upgrading at the neighborhood level, as an abandoned and dangerous building "blocks" an entire area e.g. a road is excluded due to a dangerous building in favor of public safety, a dilapidated building may house homeless or may be a source of infection or danger of fire etc. As a result, not only the value of the property but also of the entire building block falls (purchasing and touristic). Especially in dense urban centers such as Metaxourgeio, Theater

invoice were defined in detail, as well as the corresponding invoice which was in fact significantly increased in the cases of the listed buildings.

Square, Exarchia and Acharnes, entire parts of the Municipality of Athens have been degraded.

In summary, the benefits to short term and long-term planning are obvious:

- Protection of public safety e.g. of pedestrians in case of partial or total collapse of the building
- Development of real economy at the local level by creating jobs in hundreds of settlements in Greece.
- Shielding our historic buildings against climate change and other natural disasters, allowing them to be maintained in a dignified and exploitable form.
- Upgrading of the urban environment in extremely sensitive areas of the country
- Increase of the attractiveness of island, continental and urban areas of our country while giving opportunities for tourism development.
- Contribution to the preservation of this significant architectural heritage and, consequently, the country's historical identity that will inspire other actions by helping sustainable, creative, cultural economic development.
- Reuse of buildings and upgrading of living conditions in buildings that do not provide comforts to their users.
- Energy saving.

The upgrade of the buildings of popular travel destinations will attract more visitors from both inside and outside the country, while creating new jobs in the domain of tourism. The buildings that will be restored can be reused as spaces of:

1. Short-term accommodation of conference tourism visitors (especially in island destinations and in historic city centers)
2. Housing of start-ups (start up and spin offs companies), innovation centers and STEAM (Science, Technology, Engineering, Arts and Mathematics) spaces
3. Creation of Co - working spaces of new companies
4. Housing of Creative Industries Companies that want to connect their brand name with a historic building and the memory it brings to the city.
5. Housing of agricultural cooperatives or small businesses producing traditional products (gastronomy), as well as companies engaged in physical and sports activities (hiking, trekking, bike rentals, canoe & kayak, etc.) in traditional settlements.
6. Housing for students and young researchers, moving with EU programs e.g. Erasmus etc.
7. Accommodation of entertainment and educational spaces (environmental, artistic, etc.).

The use of new technologies through this action will also mobilize economic activity in new technological sectors of knowledge-intensive products and services, creating employment opportunities for highly qualified human resources.

Regarding the framework of the objectives of the European Green Agreement, the Sustainable Development Goal of the UN (Sustainable Development Goal 11) and the implementation of the Paris Agreement, the proposed financial tool aims at the protection and upgrading of the housing environment, through immediate intervention in it, but also in the long-term shielding of traditional settlements and historical sites of our country, from the problems caused by climate change to the structured cultural herit-

age. This goal follows the National, European and Global Environmental Policy concerning climate change and monuments. Greece has taken the initiative at international level on this issue, setting up a multidisciplinary committee to monitor the effects of climate change on cultural heritage and proposing in cooperation with UNESCO, the UN, the World Climate Organization, Annual meeting of experts to monitor and record issues that arise.

In addition, the “Preserve” program is a parallel action and to the "Renovation Wave" published in October of 2020 by the European Commission [13] and meets broadly the expectations of FIEC (European Federation of the Construction Industry). As the EU announced, it is a fact that three key policy areas, carbon dioxide emissions, the cyclical economy and digitalization that have often been dealt with separately by the EU in the past, they are now united under the umbrella of this important initiative. The goal of the "Renovation Wave" is to quickly accelerate the thorough renovation of old buildings, and increase their energy efficiency, while creating more than one hundred thousand "green" jobs in the construction sector. A truly ambitious goal that will strengthen the construction industry after hard months with the Covid crisis and improve the lives of citizens.

The program could contribute also to the new European co-creation Bauhaus Project [14] where architects, artists, students, engineers and designers will work together to make it a reality. The New European Bauhaus project is environmental, economic, and cultural and combines aesthetics and sustainability.

Finally, the Program “Preserve” is addressing to the promising "European Cultural Heritage Green Paper" [2]. This initiative is a key intervention for the necessary addition of historic buildings to the new and groundbreaking European strategy towards energy efficiency, and the resilience of structures to climate change and has as its main goal the more than doubling of the rate of renovations and static interventions in the building stock of the built environment. As the title solemnly reveals, the goal is for the common European architectural heritage to find a place in the "heart" of the European Green Agreement, "Putting Europe's shared heritage at the heart of the European Green Deal". This Green Paper, as it is now called, highlights the importance of restoring the architectural heritage to achieve the climate goal of reducing emissions, harnessing alternative energy sources, and enhancing the resilience of historic wealth to climate change.

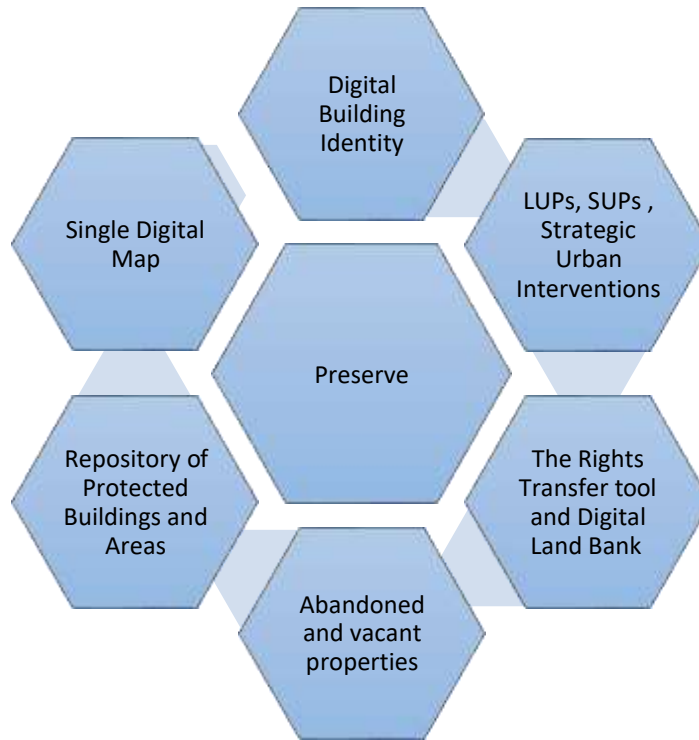


Figure 2. The holistic strategy of the Hellenic Ministry of Environment and Energy for the protection of tangible Cultural Heritage

2.4 Conclusions

Preserving the country's historic building stock is a key environmental choice, in line with the principles of sustainable development and the circular economy. By revitalizing these buildings, through funded restorations that combine the preservation of cultural values with new building restoration and energy upgrading techniques, we are unlocking enormous economic potential. At the same time, they are a key development resource, as they are associated with the attraction of cultural tourism.

The prolonged economic crisis that Greece has faced over the last decade in combination to the recent pandemic crisis resulted to a general decrease of investment and consumption. In this context the recovery, prosperity, and resilience of the Greek economy requires investments with added value in several fields.

The proposed program “Preserve” along with the other actions (Fig.2) for the preservation of cultural heritage responds to this challenge as it incorporates a wide range of investments upon the urban space which aim to:

- (a) to increase the resilience of urban areas to climate change phenomena (adaptation / mitigation),
- (b) to protect and to highlight urban landmarks of significant importance due to their historic or cultural character,
- (c) (d) to promote the energy upgrade of the building stock with emphasis

to the listed buildings.

In this framework, the combination of the selected interventions will have multi-level effects in terms of economic, environmental, functional and social revitalization of the urban space as they will result to: improvement of the quality of the urban space and the safety of the users, upgrade of the provided services, attraction of new functions and economic activities / companies that will promote the transformation of the local economies, connection of the natural and human-made environment, adaptation to climate change, upgrade of the existing building stock, etc.

Moreover, with these interventions, the market will be motivated to move towards investments that favor circular economy, holistic urban planning solutions will be presented, and smart technologies, data platforms and urban systems modeling will be promoted for better energy management of urban centers. In addition, many new jobs will be created at both local and national level to support development of applications, actions management, as well as the implementation of studies and projects.

For all these reasons, the proposed programs can be a crucial parameter to the acceleration of economic and sustainable growth and wellbeing, both in local and national level, as its implementation will contribute to the development of productive activities especially on the sectors of renewable energy sources, circular economy, construction of “green” materials, digital applications and products etc.

The result of all of the above is the gradual mitigation of the economic and social consequences of unexpected events (such as the recent pandemic or a natural disaster), especially in areas characterized by high housing densities, possibly low socio-economic background of residents etc. (ie degraded urban environment).

These actions will contribute to the green and digital transition of urban areas and increase their resilience (energy saving / upgrading of the urban environment in extremely sensitive areas of the country / upgrading living conditions in buildings to their users / protection of buildings in order to avoid their partial or total collapse / protection of public safety e.g. of pedestrians in case of partial or total collapse of the building / reuse of buildings). In addition, the enhancement of new technologies through these actions will mobilize economic activity in new technological sectors of knowledge-intensive products and services, creating employment opportunities for highly qualified human resources, thus helping to tackle youth unemployment.

Regarding the social utility of the program, it is noted that this is an overall effort from the bottom up, which requires the participation of the entire local ecosystem (Municipality, civil society, market, investors, academia, etc.) and support from all levels of Government.

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