Guidelines for future greening policy (didactic and pollinator friendly school gardens)

FC Piraeus

Project indicative: P3.1+8.1
Project type: policy proposal
Project starting point: 0-5 y
Project ending point: 10-15+ y
Linkages: P3.2+8.2
Estimated costs: n.d.

NBS3

NBS 8

Typology of the intervention

NBS3/NBS8 The current project fiche serves as a statement of reasons for the adoption and development of a new community gardens policy for all schools of Piraeus, focusing on the role of didactic gardens that feature both vegetable and pollinator-friendly plantations. This intervention was piloted during the proGIreg project across several schools, and the outcomes sparked considerable interest within the political sphere. The Vice Mayor, who attended some of these events, showed interest in replicating the initiative. The current document delves into the urban context and challenges faced by Piraeus city in its pursuit of a greener urban environment. While relevant documents with such aspirations have been drafted, tangible progress remains limited. The dense urban fabric poses significant obstacles to establishing new green spaces. Hence, directing attention towards schoolyards for greening initiatives holds great value. This approach will not only enhance the well-being of school students but also positively impact the overall city environment, addressing concerns like biodiversity loss and mitigating the urban heat island effect. However, achieving this requires a critical mass of schoolyards to undergo ecological transformation.

Intervention area

The study area is the entire municipality of Piraeus. Potential interventions encompass all the schools in Piraeus. Pedestrian roads and streets where plants can be planted in areas wider than 1 meter are also considered of high value for greening initiatives.

Urban context

The open and green spaces (Chiara Impembo, Javad Kianisadr, Lorenzo Prestini)

The educational buildings and the green spaces (Sara Gharibi, Shahab Rahiman, Jeevan Kumar Balasubramanian)

Vision

The existing situation with the green spaces in Piraeus and Infrastructure network (by students Virginia Delia Cornejo Díaz, Diego Antonio Fuentes Solis, Hosna Rezaee)

Background

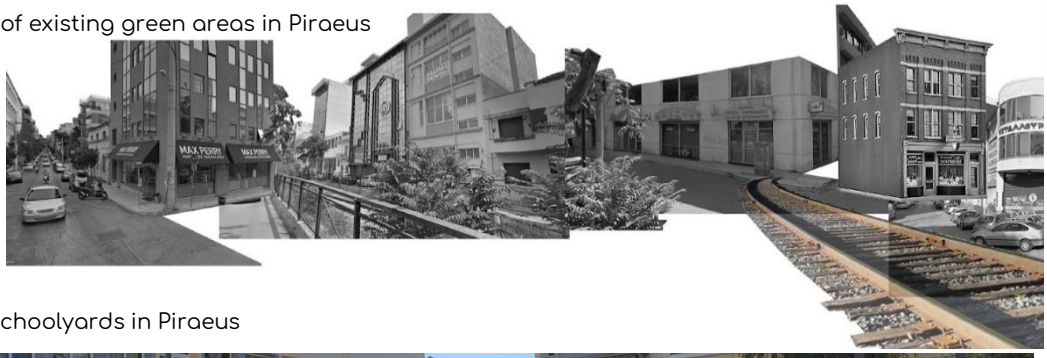
The Master Plan Agencies of Athens Web (which also includes Piraeus Municipality) was established in 1985 (by Laws 1515/1985 and 1561/1985 respectively) along with the enactment of the first Master Plans. This milestone is considered to consolidate the natural environment and urban green spaces as important factors for the quality of life and biodiversity in Greece's metropolis. The Master Plan aimed for a substantial increase in green spaces, aiming for 5 m² per inhabitant, although this falls short of the national urban planning standards (8 m²/inhabitant) (Tzortzi, Ioannou, 2022). To meet this objective, the Greek Ministry launched the ambitious Attica S.O.S. project in 1994. Despite not achieving all designated spaces, Athens developed a new generation of urban green spaces, primarily in large, existing parks of metropolitan importance. The hosting of the 2004 Olympic Games led to excessive needs for sports facilities and arenas, resulting in the permanent loss of future green spaces, equivalent to 1.23 m² of green space per inhabitant (Bellavilas and Vatavali, 2009). Though unfinished, the Athens Master Plan aimed to protect and enhance the natural environment in the metropolis. The Athens Master Plan 2021 (also including Piraeus Municipality) was approved under L.4277/2014, covering the Spatial Plan for the entire Attica Region. However, due to the recent economic crisis, minimal progress has been made. Recent actions by the Athens Agency have mainly focused on amendments to existing green spaces' restrictions and zoning, rather than creating new ones to increase the proportion of green spaces per inhabitant (Tzortzi, Ioannou, 2022).

As a result, focusing on greening initiatives to transform all the schoolyards in Piraeus is seen as an ambitious yet highly valuable endeavour, the impact being access to new green ecological spaces for a significant percentage of the population.

Challenges

Piraeus faces various challenges - high traffic area and dense urban environment results in poor air quality. There is a critical need to establish a robust interconnection between the new school gardens, green-pedestrian traffic network and significant historical sites, social hubs, and cultural activities. Transforming schoolyards, although highly valuable, remains a challenge. A considerable number of schoolyards have a small percentage of green spaces suitable for planting. The presence of extensive paved surfaces results in a hot environment for children. Implementing greening measures becomes crucial. In situations where converting paved areas into green spaces is not feasible due to limited resources, alternative solutions like vegetation containers (and raised-box gardens) must be taken into account.

Typology of existing green areas in Piraeus



Typical schoolyards in Piraeus

Policy context

The Athens Master Plan 2021, inclusive of Piraeus Municipality, offers Greek urban planning guidelines for optimal green space placement and integration with the city's functional elements. The main guidelines, as presented by Tzortzi and Ioannou (2022), encompass interconnecting the green-pedestrian network with historical sites, visually isolating monuments from incompatible environments, using vegetation for urban dweller isolation, and separating residential from nuisance areas via vegetation. The Plan specifies a desired open space per capita of 8 m², emphasizing these as aspirations, not obligations. International examples show many cities maintain 15–20 m² of green space per capita, notably more than Greek cities. European cities often adhere to even higher standards. New school gardens will increase the total amount of m²/inh.

The three didactic gardens implemented by the proGIreg team at FC Piraeus have garnered enthusiastic responses from students, teachers, and parents alike. The success of these gardens has sparked interest among other schools to embark on similar projects. Political support is in favour of these initiatives and has confirmed the availability to offer financial and material support to extend the number of school gardens. The positive impact and value that these didactic gardens bring have started to be well recognized, paving the way for a broader integration of such initiatives within the educational framework and contributing to greening the city.

Agenda

The following outlines the requirements for establishing a viable local policy for the implementation of NBS3 in schoolyards, as a strategic measure paired with the other green development priorities.

- Collaboration and paradigm shift support: Urban gardening integrated as an educational practice within the annual school programs;
- Formulation and adoption of a knowledge exchange program between educational institutions and other interested stakeholders;
- Formulation and adoption of a long-term collaborative model between schools and local authorities;
- Integrated approach – connecting greening initiatives/project of the city (including green corridors) with the new additional spaces of community-value: schoolyards.

Partners

Beneficiaries: Schools, Parents associations, Municipality and Development company of Piraeus.

Additional investors/"shareholders": local NGOs, Ministry of Educations, Piraeus Bank, Piraeus University, University of West Attica, Parents associations.

Users: residents, students, teachers, elderly citizens, parents, disabled students

Policy objectives for wide scale replication

0-5 years: min. 5 schoolyards.
5-10 years: min. 25 schoolyards.
10-15 years: min. 50 schoolyards.

Green Infrastructure Enhancement:

The transformation of schoolyards into green ecological and productive areas will significantly contribute to the city's greening objectives. Shifting away from complex and time-consuming measures, the conversion of schoolyards will establish a dense network of new green spaces, greatly valued by both students and residents.

Climate Resilience and Adaptation:

While ambitious, the transformation of all schoolyards is a feasible initiative. The outcome is represented by a new and coherent network of spaces that function as climate shelters helped by new shaded areas, effectively supporting biodiversity and mitigating the heat island effect. By integrating sustainable practices such as composting, rainwater harvesting, and organic farming into school garden initiatives, students' commitment to environmental preservation from a young age is nurtured, while simultaneously addressing the specific environmental challenges.

Community Engagement and Participation:

The implementation of didactic gardens is a collaborative process, evident from the small-scale projects piloted by the FC Piraeus team in the proGIreg project. The realization, maintenance, and monitoring of these interventions must be a participatory effort, fostering the development of new skills, and strengthening community involvement.

Promote Healthy Lifestyles:

Establishing a network of school gardens encourages outdoor activities and physical engagement, fostering a deeper connection between students and the natural world, thereby promoting healthier lifestyles.

Benefits of adopting NBS3 policy for transforming schoolyards

The value of adopting new greenery on school premises, whether in the form of didactic gardens, vegetable gardens, or pollinator-friendly areas, and the benefits of such interventions are manifold.

Source: https://www.greenschoolyards.org/school-gardens-2

1. Creating a more comfortable environment for students: increasing shade, improving air quality, and potentially providing new bio-product sources.
2. Enhancing education: New gardens can serve an educational purpose, acting as living laboratories that enhance students' understanding of biology, environment, ecology, and sustainability.
3. Cultivating a sense of responsibility and teamwork among students: The new school gardens are envisioned to be co-managed by the school and its students.
4. Encouraging lifelong learning skills and intergenerational exchange/cooperation (in the case of parents/grandparents' involvement in school gardening events).
5. Enhancing students' mental well-being and reducing stress and anxiety through: (1) engaging in horticultural activities - the process of planting and nurturing plants is widely regarded as highly therapeutic; (2) incorporating sensory landscape design and/or creating a natural ambiance.

Source: https://www.grownyc.org/school-gardens

Design requirements

Accessibility: Enhance students' access to green spaces and gardening activities through the provision of raised beds containing vegetables and aromatic plants.

Landscaping: Ensure appropriate plant selection by combining compatible tree and shrub species. Plan the placement of new vegetation cohesively, considering shading requirements, existing species, fence boundaries, basketball courts, and overall spatial layout. Optimize space usage while allowing flexibility in raised bed arrangements for vegetables and aromatic plants. Incorporate flowering plants to attract butterflies and fruit-bearing shrubs to attract birds whenever possible.

Safety: Only introduce trees and vegetables/aromatic plants that are safe for students.

Sustainability/maintenance: Utilize sustainable materials and planting techniques, promoting vegetation maintenance without the use of herbicides where feasible.

Urban furniture and equipment: Integrate additional seating amenities in open areas to encourage a sense of community