



Credits

Location: Ashdod, Israel
 Design Year: 2009
 Floor Area: 1,650 m²
 Competition: Shared First Prize

Green Walls for Shade and Climate Control

| Golany Architects |

Green walls for shade and climate control surround this building, which was proposed by Golany Architects for the city of Ashdod, in southern Israel. The building is located right in the center of the city, and is intended to become a center for young people, where they can obtain information and direction in matters of higher education and career planning. The building also reflects the younger spirit in setting an example in its environmentally responsible design. The contemporary design of the facades is based on colonnades that serve as passages, and that are designed to provide shading and climate control. The columns are formed as frames to support the growth of the vines, relying on the Mediterranean region's long tradition of using vine-covered pergolas to escape the heat.

The design choice to envelop the building with green walls derived from both the environmental benefits, and the urban context. The site is surrounded by a dense city fabric. Designers wanted the building to distinguish itself from its immediate urban environment. By designing it as a non-building, as a vertical garden, the building becomes distinct on the background of the built environment. Placing such a building in a central position has also publicity benefit, by raising awareness of pressing environmental issues.

The columns supporting the growing vines surround the building as a second external living skin. The most significant benefit of the vegetated elevations is the moderation of the temperature in the building and its immediate environment. The natural shade is generally much cooler than that provided by built solutions, as plants do not store and re-radiate heat. Instead, they contribute to further cooling through evaporation and transpiration from their leaves. The cooling effect provided by carefully designed plantings has been found to reduce the consumption of energy for air-conditioning by 10% to 50%, depending on the level of building insulation (Lyle 1999).

This positive micro-climatic influence is enhanced by the colonnades, which increase the air flow through them. The ventilation, in this hot and relatively humid climate, enhances the cooling effect of the plants.

Another important benefit of the green walls lies in the improvement of air quality via the reduction of CO₂ and the emission of O₂, which is especially important in city centers. Plants also help to reduce airborne pollutants and atmospheric deposition, by capturing them on their leaf surfaces.

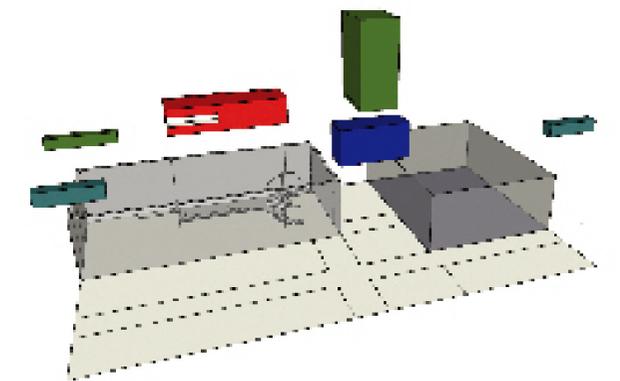
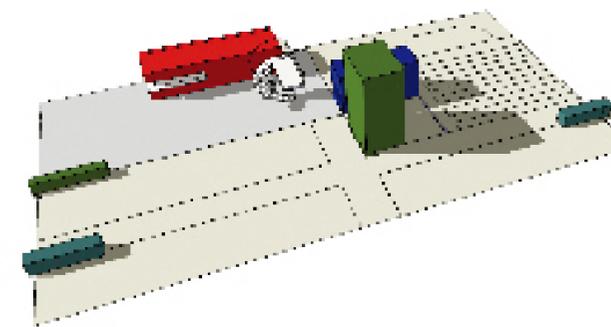
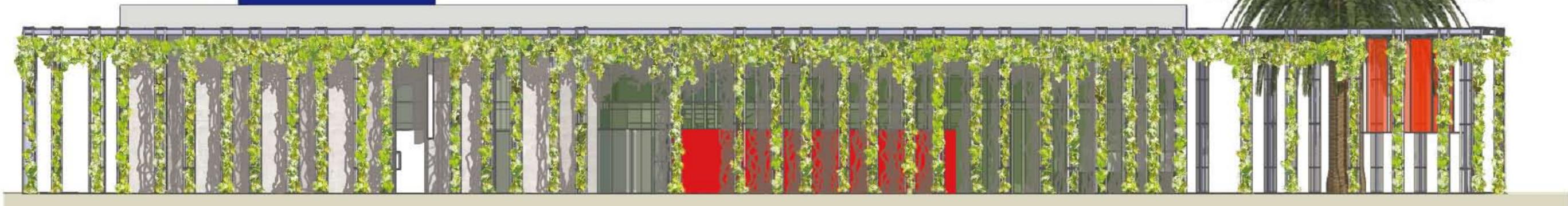
The positive influence of plants on human's mind and soul is indisputable. Their positive contribution to one's psychology and their aesthetic value is crucial





to human's well-being. Good ambience is desirable in any building, but when designing a center that will offer consultations and social activities, it becomes even more essential.

The building and the columns were designed to be effective, whether or not they are, covered by plants. The design process was monitored by an agronomist, who assisted in the selection of vine species, and in the provision of optimal conditions for growth. The designers wanted to ensure that the concept of green



walls could be attained in reality with minimum maintenance requirements. The expected water consumption via irrigation is negligible, and this was another important aspect ensured when the green walls were proposed. All of the spaces are organized around the light-filled lobby with its large, northern-facing opening, and the entire building is designed to be naturally lit and ventilated. The arrangement of the spaces is in a continuous articulation, with passages wide enough to be used as sitting areas, to encourage and allow for casual or planned meetings to occur. Most of the spaces overlook the double-story lobby, with glass partitions that allow in additional filtered light, while also enhancing views and contributing to a sense of participation.



