4.1 = SUSTAINABLE GARDENS: AN EVALUATION TOOL FOR MANAGEMENT AND PLANNING STRATEGIES

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Gardens, especially if public accessible, are important resources in the sustainable development and contribute to improve the quality of life in urban and suburban areas in many ways. In addition to the usual social functions, like citizen recreation, welfare, gathering, and ecological education, gardens also provide many so-called ecosystem services, e.g. pollutant mitigation, noise reduction, microclimate improvement, biodiversity conservation and enhancement, landscape connectivity. Often gardens are also key elements of cultural heritage, reflecting local history, customs, and traditions and including valued artistic and natural features (1).
Integration between management needs and socio-ecological benefits of gardens within environmental policies and local development strategies is often very limited. Urban gardens and related issues still arouse minor interest, especially in the southern Mediterranean cities. Gardens in the public domain, run by civic municipalities, government entities or educational institutions, suffer from the lack of financial support and of integrated management planning; thus they are viewed as a cost to society rather than a resource. At the same time, both historical or botanical gardens and public ones have opposite missions that range from conservation and scientific aims to civic amenity, so requiring different approaches in their management policy. Therefore, we need to identify the key criteria for the best management strategies ensuring long-term maintenance and improvement of gardens, their collections and structural features, as well as to develop integrated tools for evaluating/monitoring garden state and sustainability (2, 3). Main scope is to make both garden operators and managers aware of garden strength/ weakness and management priorities in order to better plan and organize their efforts. The tool should also be able to guide them to consider items beyond their expertise that may nonetheless be critical to achieve sustainability (4).
With the support of GARDMED The Network of Mediterranean Gardens (project implemented within EU funds ERDF Operative Programme Italy-Malta 2007-2013), a first evaluation tool for the sustainability of Mediterranean gardens was developed and practically applied to different gardens (public, private and botanical gardens) in Sicily and Malta. This tool is based on a Sustainability Framework including assessment for almost 100 criteria arranged in six dimensions of sustainability and three levels of achievement (basic, advanced and reference). Scores for each criterion and each dimension provide a Garden Sustainability Index (GSI) that indicates the overall sustainability rating of the garden. Scores are weighted with reference to the different garden types having different sustainability goals. Current garden status is checked and visualized using a table and a web diagram (Fig. 1) that clearly target required actions to achieve and monitor progress in the medium to long term.
Future development of this tool is expected in improving quantitative indicators and weighted dynamic scoring in order to easily assess environmental and socio-economical benefits of green practices and eco-sustainable actions applied to the garden management.

GARDMED SUSTAINABILITY MATRIX				
Garden Name	Level 1	Level 2	Level 3	GSI
SD1. Garden Product Sustainability	1.00	1.90	2.50	83%
SD2. Enterprise/Culture Management Sustainability	0.83	1.50	2.75	71%
SD3. Community Sustainability	0.00	1.00	2.00	0%
SD4. Visitor Sustainability	0.00	1.00	2.00	0%
SD5. Awareness Sustainability	0.00	1.00	2.00	0%
SD6. Financial Sustainability	0.00	1.00	2.00	0%
	44%	31%	28%	35%

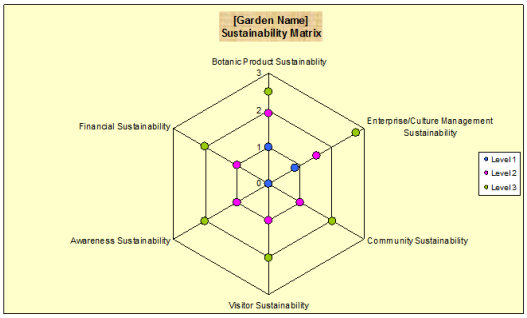

Fig. 1 Sustainability table and diagram from Gardmed Project outputs

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