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Landscape planning: from theory to teaching

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Abstract

Following the signing of the European Landscape Convention by different Spanish regions, landscape became a specific and necessary issue in regional and local planning. However, and after almost ten years, the results remain unclear and a constructive review, affecting also education, might be convenient.

The lack of specific degrees in landscape architecture in Spain might partially explain the difficulties in the dissemination of the newly created landscape planning tools, although the introduction of consistent subjects in consolidated degrees like architecture, geography, agronomy, etc. or in some related masters, could have also served this purpose. The reality was nevertheless quite different since that teaching was seldom included in the university curricula, and when that happened, it tended to focus its attention in specific aspects, losing the transversal and proactive role that landscape was expected to have.

Some of the most positive academic experiences came from those subjects or courses which tried to work hand in hand with this new planning context, enhancing a holistic perception of the territory, promoting a global understanding of urban, agricultural and natural areas, reading processes and patterns and, specially, emphasizing the proactive character of the landscape planning tools by overtaking formal description and by producing new models and clear spatial or normative determinations which could be conveniently introduced in the planning context.

Also in those cases, multidisciplinary work, effective use of classical or new concepts like landscape unit, landscape assessment or green infrastructures, and a general understanding of the socio economic forces involved in the management or transformation of any landscape, proved to be a very useful tool to create both imaginative and realistic proposals, providing at the same time the global vision that landscape planners should have to establish the most harmonic possible dialogue between all the elements, interests and actors coexisting in any territory.

Keywords: *“Planning; “Land use”; “Green Infrastructure”; “Multidisciplinary”; “Education”*

1 From theory...

1.1 The goals

Landscape planning could be defined as the branch of landscape architecture which tries to establish the conditions for the most harmonic and sustainable relationship between the different land-uses, elements, interests, demands and actors which coexist in any territory. In order to do this, it needs to integrate environmental, cultural and visual factors and create the sustainable conditions for social, economic and individual development.

1.2 The boundaries

By considering landscape as the perceived dimension of any territory (European Landscape Convention, 2000), landscape planning will have to deal with the wide group of natural and human systems and processes which create, maintain and modify any territory and subsequently its human perception. This wide task requires necessarily a holistic approach in which the traditional compartmentalization of professional and academic fields or the physical boundaries between urban, rural and natural areas are inevitably questioned. Landscape Planning tends to escape the strict academic or geographical zoning and it is precisely in this transversal quality where rests the most important educational challenge.

1.3 The background

The European Landscape Convention remains as a permanent and essential reference for all those interested in understanding the motifs which justify Landscape Planning. As a road map, it succinctly defines the key objectives, terms and necessary concepts, leaving to the international, national, regional or local signers the freedom to define the most adequate ways for its implementation.

1.4 The challenge

Although the goals of landscape planning tend to be unanimously supported, it often remains at the sphere of good intentions due to its transversal character, its long run projection and the need of getting a shared vision for the future.

The main challenge in landscape planning is therefore overcoming those difficulties by finding the right mechanisms to make of landscape a proactive element rather than a passive result. In addition, landscape planning should respond to the common argumentation that landscape quality is just a question of personal taste, to the general prevalence of short run thinking and, last but not least, to the professional and academic compartmentalization, which tend to advocate for specific and punctual solutions in the belief that their addition will necessarily produce a positive global result.

1.5 A travel partner

Sustainability shares with landscape planning its transversal, systemic, long run and inter-scalar character and also the fact that, in spite of being publically supported, cannot be achieved without a holistic approach.

Actually, a sustainable and a well landscape planned territory seem to be complementary since both of them are, by definition, based in a positive relationship between the human being and the environment and both of them need necessarily to work with fluxes, processes, "elusive" indicators and systems rather than with isolated elements or spaces.

This convergence can also be extended to the teaching sphere, where sustainability and landscape planning seem to exceed the limits of the existing curricula and where the creation of bridges between sustainability, landscape and ecology, seems at the very least, promising.

1.6 The concepts

Landscape planning has generated its own concepts in order to rationalize the analysis, diagnosis and definition of proposals:

Landscape characterization is understood as the identification of patterns, elements and dynamics which explain the origin and evolution of any landscape. The bibliography about this subject is quite abundant but the British experience has become a worldwide reference with its hierarchical system of “character types” and “character areas”, defined at national, regional, county and local levels (Landscape Character Assessment, 2002). In the same line, “*Landscape Units*” are understood in the Valencian planning system as continuous pieces of land sharing similar patterns, potentials, problems and processes and, by considering not only their physical conformation but also their dynamics, they are expected to become functional and management entities. (Reglamento del Paisaje, 2006).

Landscape Assessment is concerned with the highly controversial topic of assessing landscape quality and it could serve a triple function, firstly it can guide the rational and justified prioritization of actions and measures, for instance giving preference to those areas with lower landscape values; secondly it permits monitoring landscape changes and thirdly it can become a design tool by detecting which aspects contribute more significantly to landscape value. The vast research developed in this field has permitted us to know better how we perceive, process and give preference to some landscapes (The Visual Landscape Reader, Steinitz, 2008) but the final equations explaining landscape quality remain still unveiled in the undecipherable array of physical, cultural, social and individual factors which are attached to landscape.

The methodology developed in the Valencian Region for the assessment of landscape units and landscape resources assumes this challenge and calculates those values by combining people’s preferences and experts’ judgments (landscape preference and landscape quality). (Figure 1)

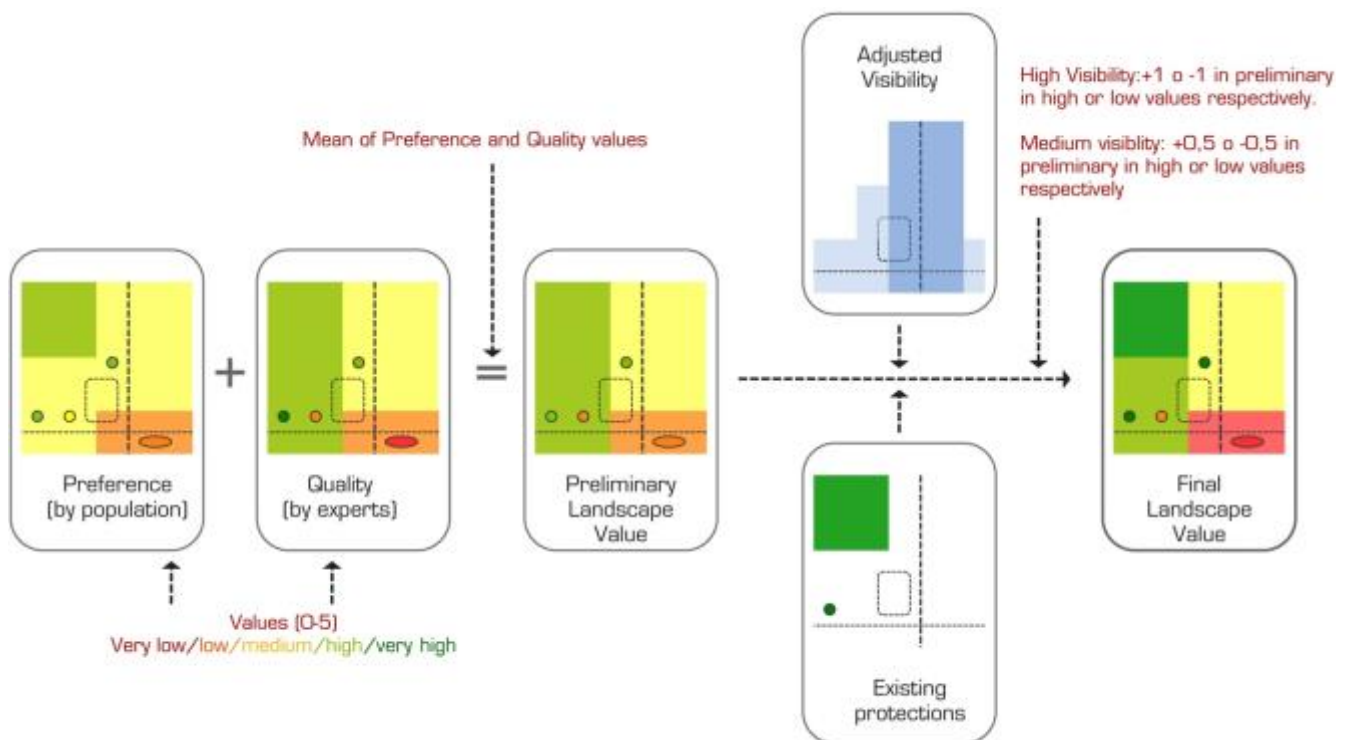


Figure 1: Assessment of Landscape Units and Resources according with the Valencian methodology

Visual Analysis: Landscape visibility is understood as the physiographical visibility of one area adjusted by the position and amount of possible observers. This analysis identifies the most exposed areas and permits to concentrate the attention on them.

Landscape Quality Objectives are defined by the European Landscape Convention as “the formulation by the competent public authorities of the aspirations of the public with regard to the landscape features of their surroundings”. They are the keystones to pass from the analytical stages to the development of landscape policies and proposals. Following this idea, the Objectives are expected to envision a new and improved scenario for Landscape Units and Resources.

Landscape Policies can be defined as the “expression by the competent public authorities of general principles, strategies and guidelines that permit the taking of specific measures aimed at the protection, management and planning of landscapes” (European Landscape Convention, 2000). Those measures can include specific projects, *landscape programmes*, *landscape regulations* or even *physical demarcations* (figure 2). Landscape policies and their associated measures are by definition *proactive* and *propositional*, surpassing the descriptive or intentional approach which has often been associated with landscape planning.

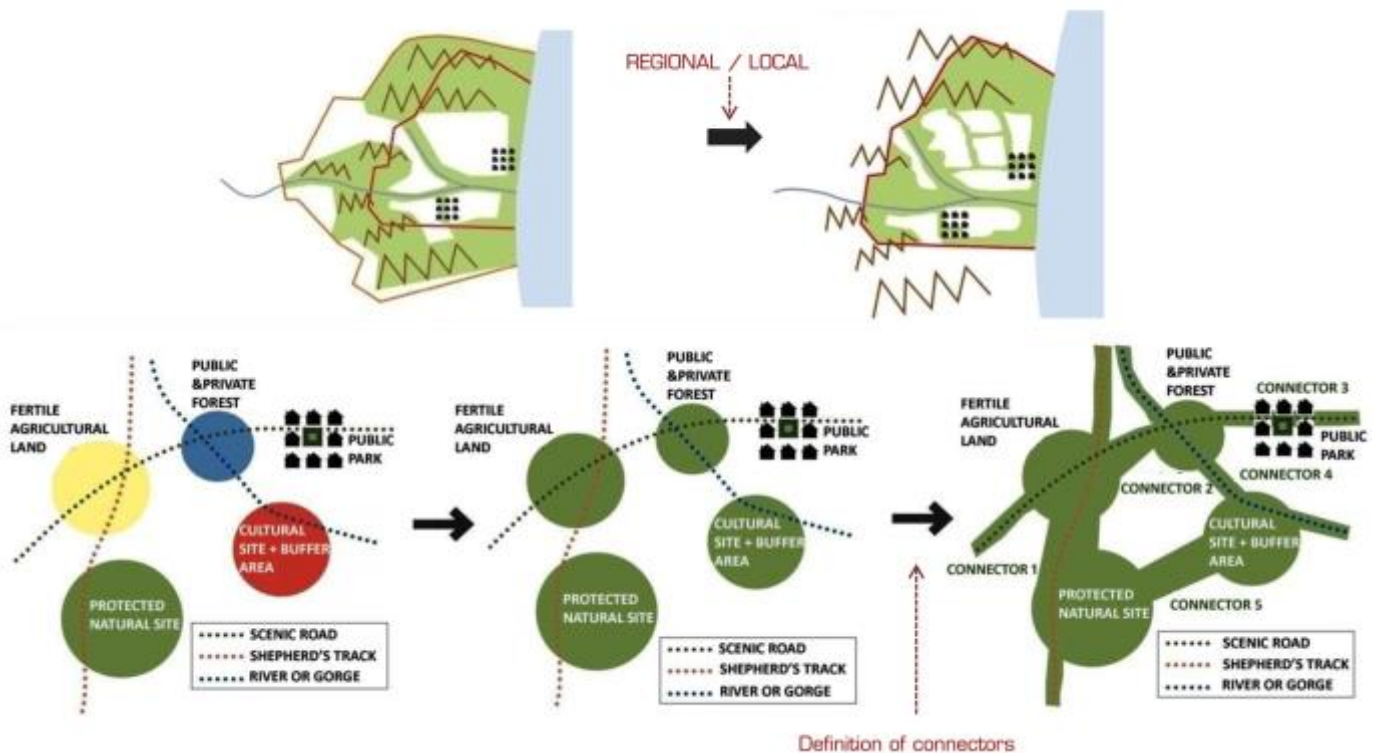


Figure 2: System of open spaces or Green infrastructure according to the Valencian methodology

Landscape Tools: As stated in the European Landscape Convention, landscape protection, management or planning should be firstly backed by the *legal recognition of landscape* and should be implemented by integrating “landscape into regional and town planning policies and in cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape” (European Landscape Convention, 2000). This last requirement opens a crucial disjunctive, either to incorporate landscape into other policy sectors or to create specific landscape tools and policies. Thus, in the Netherlands, with a long tradition of multidisciplinary collaboration, “landscape policies are integrated into several other (secondary) policy sectors of which spatial planning must be considered

the most important” (Wascher & Schröder, 2009). Conversely, in Spain, with a strong division of professional scopes, the tendency has been to create independent landscape tools like the Landscape Plans in the Valencian Region or the Landscape Catalogues in Catalonia.

1.7 Some frameworks

Following the signing of the European Landscape Convention, the Valencian and the Catalonian Regions developed their respective legal and normative contexts in order to integrate landscape into their planning systems (Table1).

In the Valencian Region, Landscape Plans were supposed to be developed simultaneously at different scales (supra-regional, regional and local), whilst in Catalonia, Landscape Catalogues were just prepared at the regional scale following a prefixed time schedule. In relation to their enforceability, the determinations included in the Valencian Landscape Plans have to be automatically assumed in the regional or municipal plans whilst, the determinations of the Catalonian Landscape Catalogues have a guiding character and could be later adjusted or adopted in regional or municipal plans (table 2).

REGION	VALENCIAN REGION	PUBLIC PARTICIPATION	CATALONIA	PUBLIC PARTICIPATION
TOOL	LANDSCAPE PLAN (ESTUDIO DE PAISAJE)		LANDSCAPE CATALOGUE (CATALOGO DE PAISAJE)	
SCOPE OF APPLICATION	SUPRA REGIONAL..... REGIONAL LOCAL Hierarchical implementation?: NO		SUPRA REGIONAL..... REGIONAL LOCAL Hierarchical implementation?: YES	
METHODOLOGY AND PHASES	CHARACTERISATION & DIAGNOSIS - Landscape Units - Landscape Resources (environmental, cultural and visual)		CHARACTERISATION & DIAGNOSIS - Landscape Units - Special Landscapes	
	QUALITY ASSESSMENT - QUALITY: by experts + PREFERENCE: by people - Adjustments by DEGREE OF VISIBILITY - Visual Analysis based in observation points/lines		QUALITY ASSESSMENT - No included	
	LANDSCAPE QUALITY OBJECTIVES (LQO) - 3 general LQO for the VALENCIAN REGION. - LQOs for each Landscape Unit and Landscape Resource		LANDSCAPE QUALITY OBJECTIVES (LQO) - 10 general LQO for CATALONIA. - LQOs for each Catalogue's Area - LQOs for each Landscape Unit	
	DETERMINATIONS - SPATIAL: System of Open Spaces (Green Infrastructure) - PROGRAMMATIC: Landscape Programmes - NORMATIVE: Landscape Regulations - General Regulations - Specific Regulations (for all the scope / for the System of Open Spaces / For the catalogued areas or elements)		DETERMINATIONS - CRITERIA (for each LQO of the Catalogue's Area) - ACTIONS (for each LQO of the Catalogue's Area) - DEFINITION of Specific Areas for: - Landscape protection - Promotion of Landscape management - Possible Landscape transformation	

Table 1: Contents and Scopes in Valencian Landscape Plans and in Catalonian Landscape Catalogues.

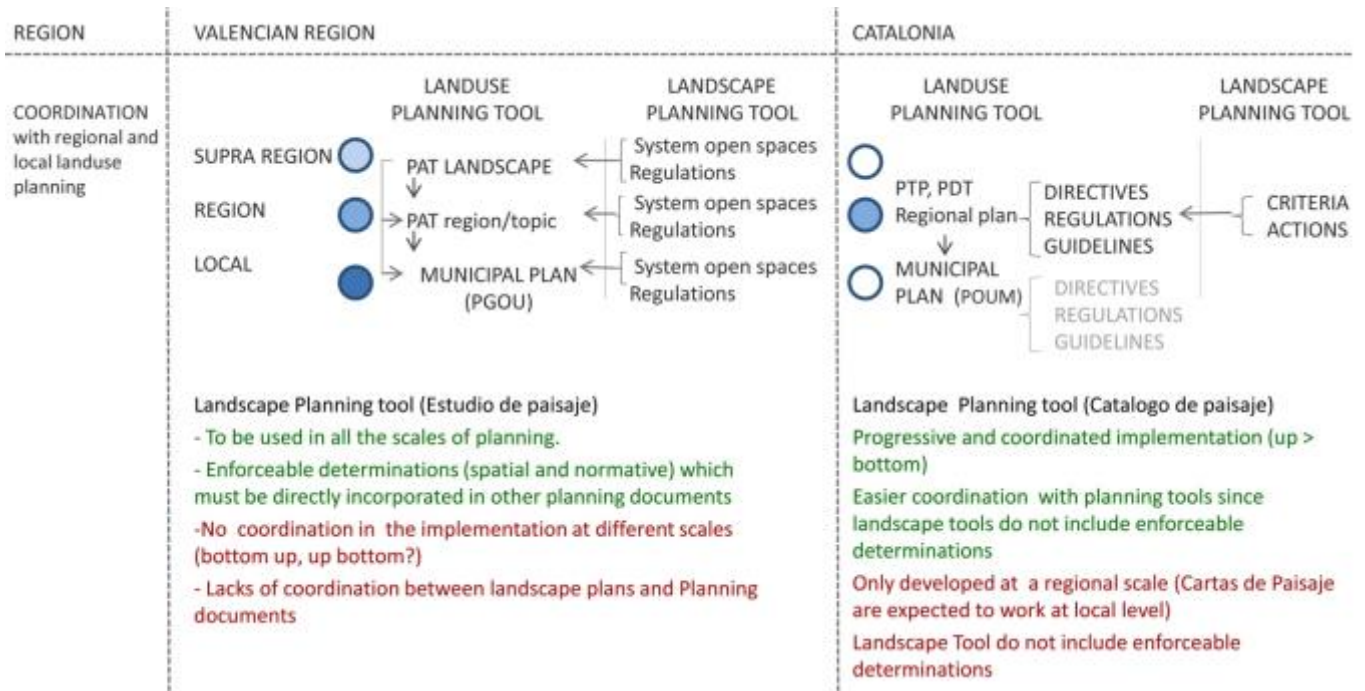


Table 2: Landscape Planning Tools and Land-use Planning Tools in the Valencian and the Catalanian

2 ...To teaching

After having highlighted some of the most important theoretical aspects of landscape planning, the current paper analyses how this discipline can be integrated in the academic world, focusing the attention in the Spanish context, where the signing of the European Landscape Convention by some Autonomous Regions, opened a promising new scenario.

2.1 Landscape planning in study plans:

The teaching activity in Spain during the XXth Century cannot be fully understood without noticing the traditional separation between “humanities” and “polytechnic” universities. In the first ones, researchers have usually analyzed the landscape in a descriptive way and quite often in the big scale. In contrast, the polytechnic schools have tended to focus their attention on safe and efficient land-use planning, and, very punctually on landscape integration, especially in sensitive or protected environments.

The introduction in the 1980’s of the Environmental Impact Assessment (EIA) marked a clear threshold. Somehow, the Spanish universities had to respond to this new legal and administrative context, and although most of the courses which were created at that time were mainly concerned with landscape integration, a consistent and more open reflection about landscape also took place.

In a second stage, the signing of the European Landscape Convention by some of the Spanish Autonomous Regions provided a more transversal and proactive vision of the landscape which crashed with the existing professional and university structures. Firstly, it was difficult to be transversal in the very specialized university system; secondly, it was hard to be proactive in a discipline that had been traditionally approached in a descriptive or preventive way and thirdly, Spain did not have any specific public university degrees in landscape architecture, design or planning. Due to this, landscape planning was optionally taught in complementary subjects and, only at master level, it was possible to find some titles partially related with that matter.

This situation was partially improved when some regional governments and some professional associations became increasingly interested in landscape planning.

However, the expansion on landscape education that took place during those years was basically implemented through monographic courses and through some new or existing masters, which were generally very influenced by the “humanistic” or “polytechnic” character of their own universities. Since then, and with some remarkable exemptions, the education on landscape have tended to readjust the academic background of their students (architects, engineers, geographers, sociologist, biologists, environmentalists, etc.), in the general belief that the transversal character of the landscape required multidisciplinary teams rather than multidisciplinary individuals.

2.2 Some academic experiences

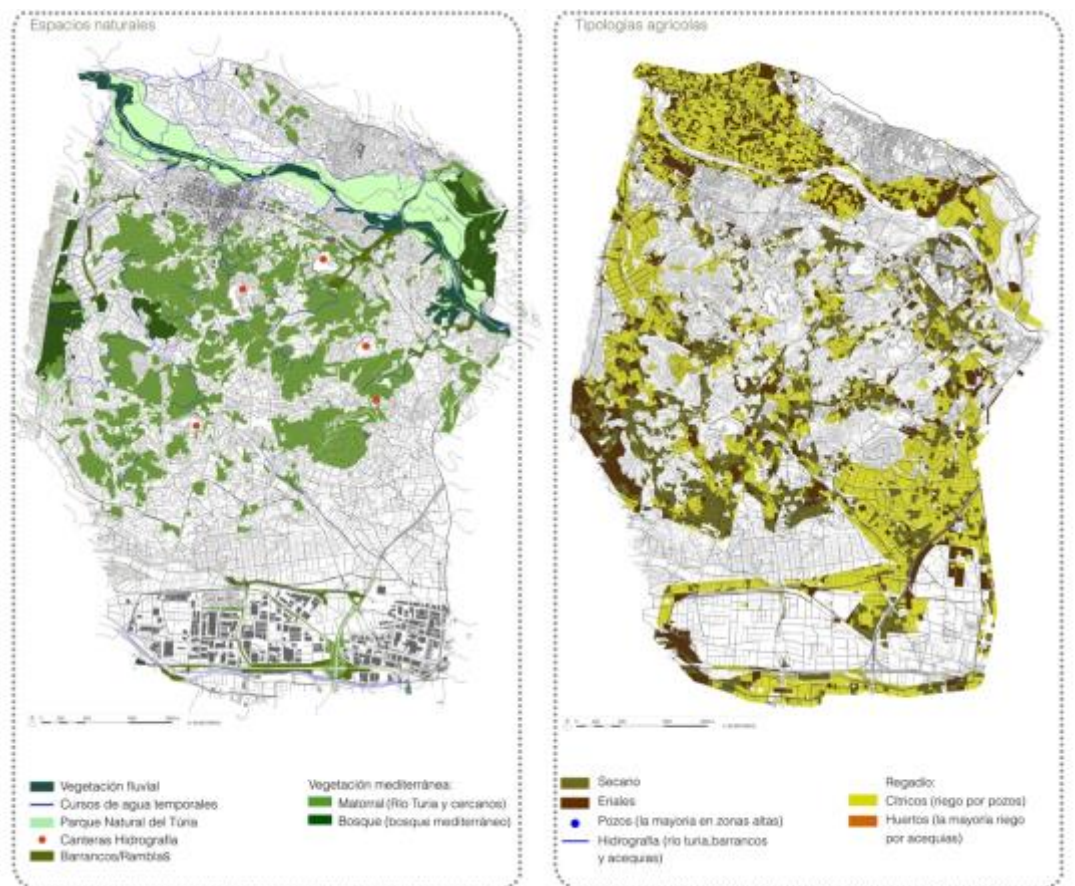
The following examples are based in the personal experience gained as teacher and coordinator of the Master in Landscape and Garden Design and as teacher of the subject “Landscape and Environmental Planning”, included in the Master in Advanced Architecture, Landscape, Urbanism and Design (Polytechnic University of Valencia).

In both cases, the subjects and master thesis were designed to support from the university the implementation of the Valencian Landscape Policy by teaching the methodologies and basics for the preparation of “Landscape Plans” (the landscape planning tools required by the Valencian Legislation in any regional or municipal Plan).

About territorial analysis

The understanding and graphic representation of the natural and human systems, patterns and processes was always the first step. This stage was also particularly important to introduce the students in those aspects which were unfamiliar for them (agricultural and natural areas for architects, urban fabrics for engineers, etc.). (Figure 3)

Figure 3: Natural and Agricultural systems in Ribarroja del Turia (students: Cao, Y., Falqui, R., Ferrandis, E., Pérez, M. I.



About landscape characterization:

The definition of Landscape Units and Landscape Resources required the intentional integration of all the layers developed in the previous stage. It was particularly important to show how land uses and land covers do not necessarily correspond to landscape units and how the working scale can modify the characteristics of the unit. Additionally, it was essential to integrate processes, tendencies and dynamics in order to create functional landscape units which, by sharing the same systems, problems and potentials, could receive similar treatments. (Figure 4)

About landscape assessment:

In this point, the very same concept of landscape quality opened very fruitful discussions. The methodology proposed in the Valencian Region for the assessment of Landscape Units and Resources was found particularly interesting and lead to the need of considering relative or local values rather than absolute or universal ones. (Figure 4)

About visual analysis:

This step was particularly demanding since the calculation of visual basins with GIS programs had to be always adjusted with onsite visits. The selection of observation points or lines was also a critical issue since it determined completely the whole structure of the visibility map.

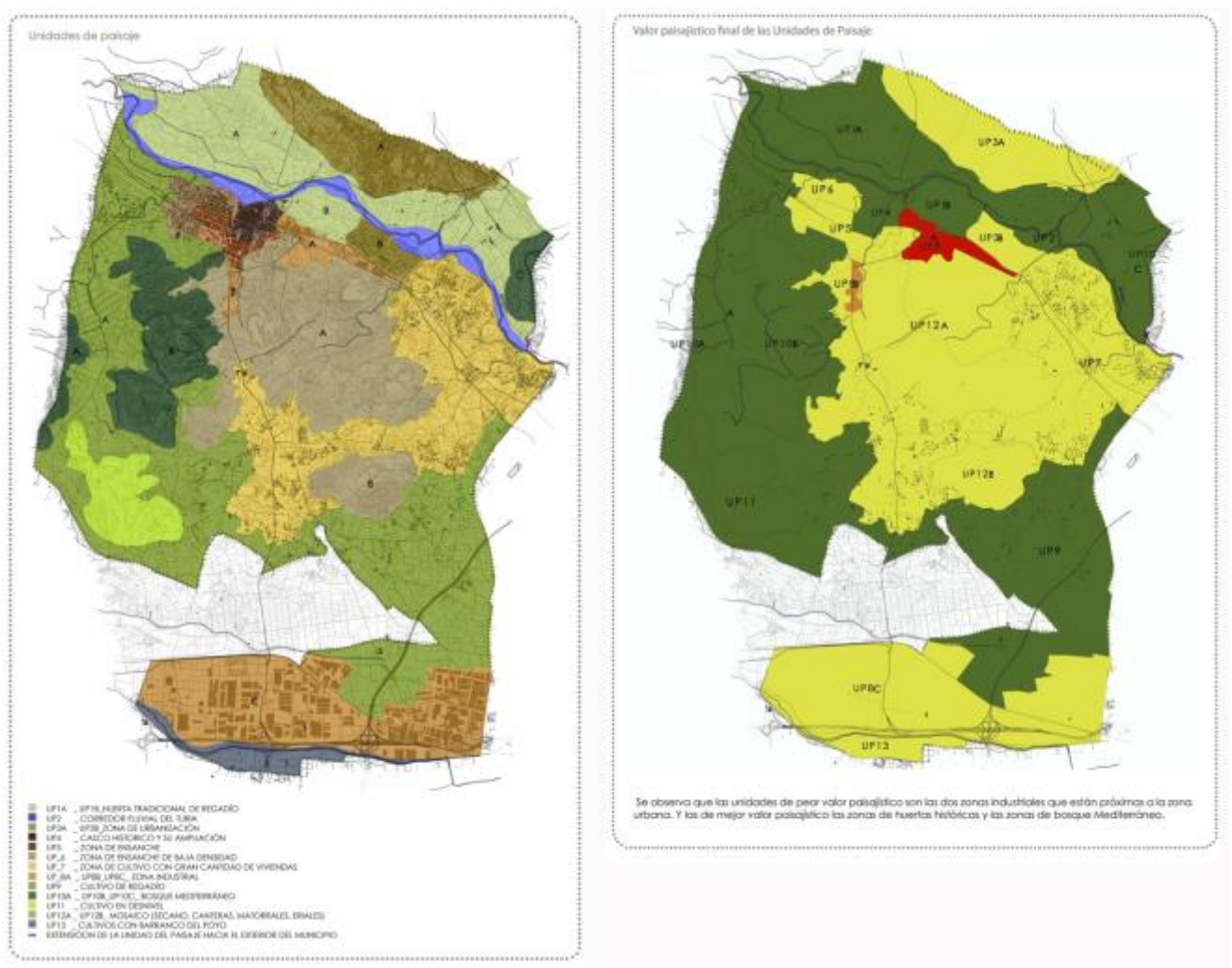


Figure 4: Landscape Units and Values in Ribarroja del Turia (students: Cao, Y., Falqui, R., Ferrandis, E., Pérez, M. I.)

About landscape quality objectives:

Due to its abstract and intentional character students tended to forget the importance of this stage. In order to highlight its importance, they were asked to enunciate them very synthetically and to represent them graphically, generating also new territorial models. (Figure 5)



Figure 5: Landscape Quality Objectives for Moncada (student: Ripoll, M. J.)

About systems of open spaces (green infrastructures):

At this stage, the students were invited to define an interconnected system of open spaces integrating the most strategic urban, agricultural and natural areas and to think about the very diverse functions and ecological services that could be attached to it. The creation of connectors and the need of discriminating some areas, mainly in the rural and urban contexts, proved to be the most critical parts. (Figure 6)

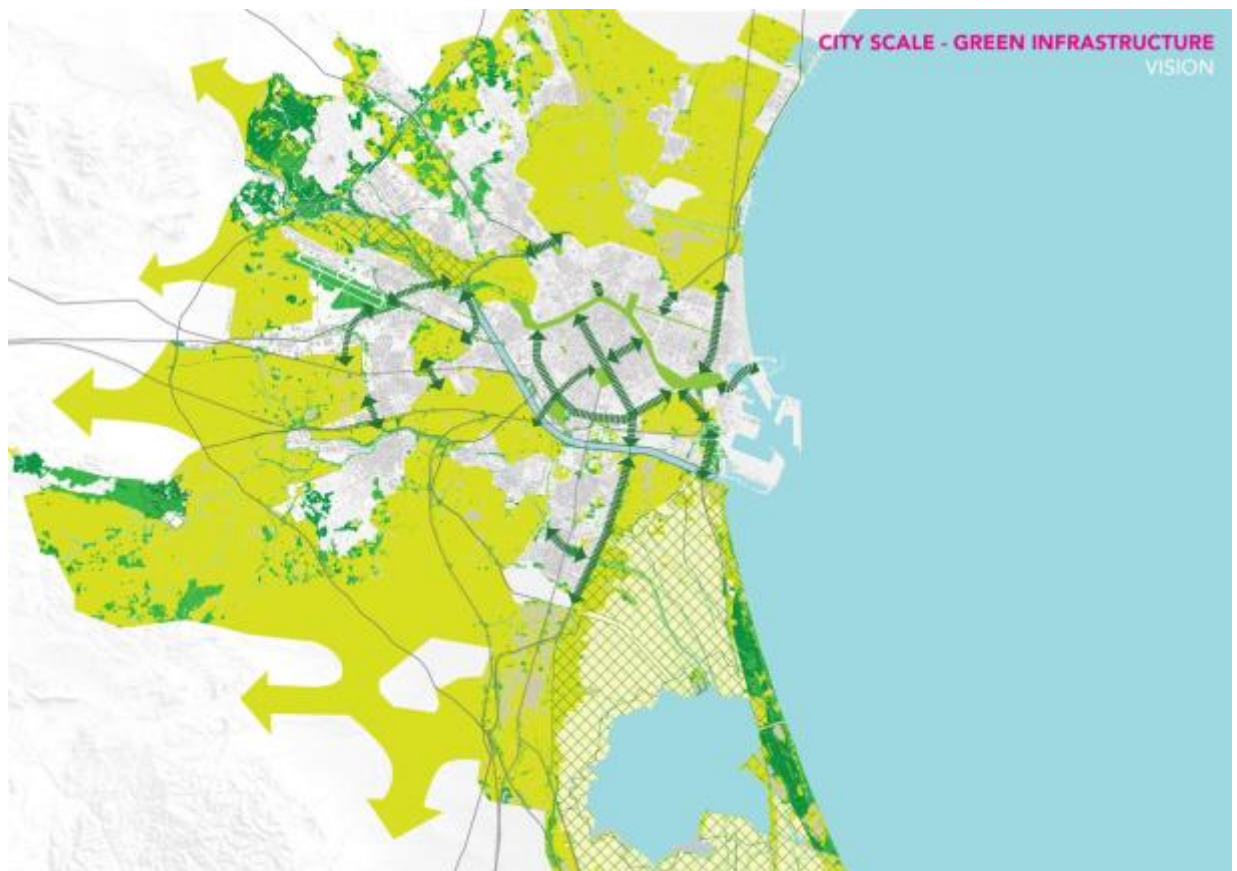


Figure 6: System of Open Spaces or Green Infrastructure for the Metropolitan Area of Valencia (students: Norros, I., Varpio, M., Juurinen, I., Kauto, E.)

About landscape programmes:

In addition to the geographical demarcations associated with the System of Open Spaces and to the guiding character of Landscape Regulations, Landscape programmes included the construction, management and societal actions or projects to fulfill the landscape quality objectives. (Figure 7).

About landscape regulations:

Landscape regulations were organized in geographical scopes (urban, rural and natural) and were understood as the guidelines that should be followed by different collectives (planners, constructors, farmers, etc.) to protect, manage or create a more consistent, harmonic and identity based landscape. (Figure 8)

About public participation:

The definition of meaningful participation processes is one of the most challenging issues in landscape planning. At this point, the students had to define the methods, schedule, stakeholders and demographic samples that should be considered in their public participation plans and, additionally, test them by assuming different roles.



Figure 7: Landscape Programmes for Moncada (student: Cano, Laura)

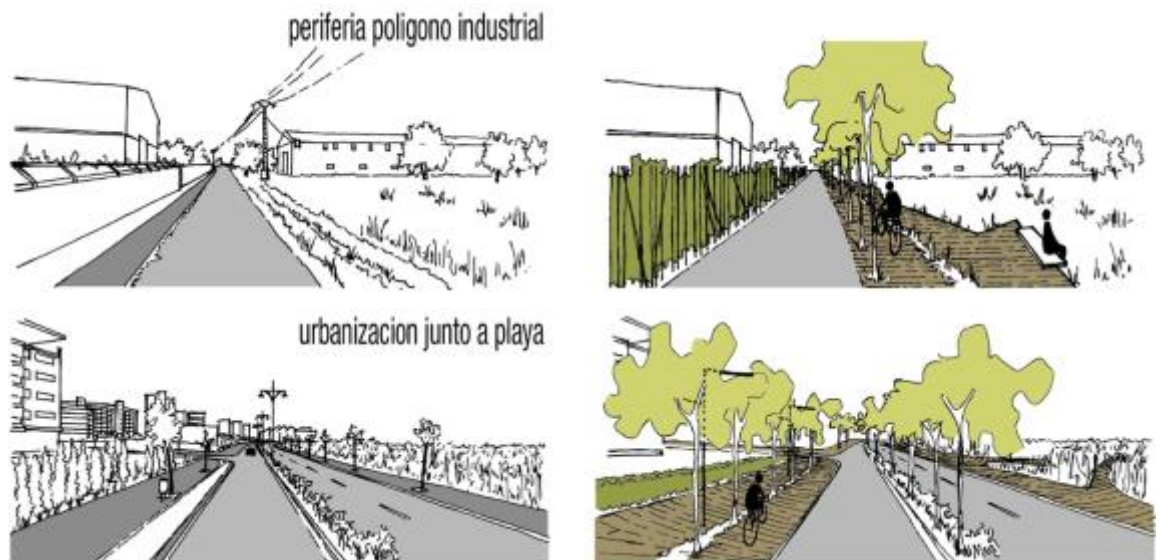


Figure 8: Landscape Regulations for El Puig (students: Belda, E., Muedra, R., Mendez, S., Salvador, N.)

3. Conclusions:

Landscape planning shares with other disciplines or concepts (land use planning, ecology, sustainability) a highly transversal character which seems to be difficult to integrate in an increasingly specialized teaching system.

The education of multidisciplinary landscape planners, trained to understand the wide variety of human, natural and visual aspects involved in the creation, protection and management of landscapes, should be based in an adequate knowledge of those aspects and in the capability to use and combine them in a proactive way. The study plans serving those purposes should compensate the specialized profiles that most of the students tend to have and should provide the transversal fundamentals and basic concepts at the very early stages.

In addition to this, the study plans should incorporate and support the wide range of landscape planning concepts, tools and methodologies which are already available and that can be reformulated by advanced students. This explorative attitude should be always kept in mind in order to promote a creative analysis of the territory, the generation of models and future scenarios, and the definition of imaginative but well justified proposals.

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