

## The Planning of Peri-Urban Agricultural Areas: the Case of “L’Horta de València”

*José Luis Miralles i Garcia*

(Professor of Urban and Regional Planning, Universitat Politècnica de València, c/ Camí de Vera s/n, 46022-València (Spain),  
jlmirall@urb.upv.es)

### 1 ABSTRACT

València is a city in the Spanish Mediterranean sea. Is the capital of Valencia’s region. The peri-urban territory of Valencia is an agricultural land with high productivity. This land is in production since the medieval age through an irrigation system of Arab origin. The “water court”, with probable Arabic origin, dispensing with words (not write) justice among irrigators all Thursdays at gate Cathedral. The historical agricultural land had a surface of 10.000 ha of which 5.000 ha have been built. There are also another 10.000 ha of agricultural land of high quality. So this space has an important potential agricultural, cultural, economic, as landscape, historical, as a natural resource, ... All included in the metropolitan area of Valencia.

Since 1946 there have been several experiences and attempts for planning and management this space. Usually as passive planning. After the European Landscape Convention (Florence, 2000) changes the way for approach the problem. Now we have a perspective as a landscape product of human interaction. With this new perspectiva is realized the Territorial Plan of Action for the Protection of L’Horta.

However, the plan done, now completely finished but not approved, has not been able to overcome the contradictions and conflicts of uses for this peri-urban area.

Particularly, the Valencian society lives today the economic consequences of the housing bubble crack. But this society (particularly public authorities) expect another housing bubble and does not perceive the environmental bubble (consumption continued each year more natural resources than those produced by ecosystems in the same year).

This paper reflects on the approach of a new paradigm for planning and land management to prevent new bubbles and their consequences.

### 2 PERIURBAN AGRICULTURAL SPACE OF “L’HORTA DE VALENCIA”

#### 2.1 Characteristics

L’Horta de Valencia is a unique landscape. It is located in the suburban environment of Valencia metropolitan area. Valencia is a city in the Spanish Mediterranean. Its origin is Roman. The Spanish Mediterranean coast, in general, is mountainous but Valencia is located in a flood plain along the river Turia. This has enabled the agricultural use of the land by irrigation.

About 30 km south of the mouth of the Turia river, Júcar river flows into the sea. Both rivers share therefore floodplain. Originally, this plain had numerous wetlands. Throughout the centuries have dried all that existed in the environment of Valencia city except Albufera lagoon.

Today, in the wetlands around the Albufera lagoon, rice is grown, and the rest of the plain vegetables and citrus fruits are grown. The whole plain is irrigated. Not precisely known but it seems that the origins of the irrigation network are Arabs.<sup>1</sup> The historic irrigation network has 7 channels that take water from the River Turia.

The long history of Valencian irrigation has generated a powerful agricultural and water culture whose main symbol is the Water Court (possible Arab origin). The Court dispenses justice every Thursday at the door of the Cathedral even today. It deals with the problems of irrigation farmers. All processes are exclusively oral and judgments are met by the verbal agreement of farmers who submit to the court.

The historic vegetables garden came to occupy an area of about 10,000 ha. which, at present, approximately half are maintained (Biot, 1998). But also in the metropolitan area of Valencia are another 10,000 ha of high quality agricultural areas cultivated mainly with orange (Antolín et al, 1998).

<sup>1</sup> Different Muslims governments of Valencia occur in the period from 711 to 1238 years.

The first report of Dobris European Environment Agency (EEA, 1995) made an approach to European landscapes and identified only 6 places with landscape garden. Two of them in Spain, the orchards of Valencia and Murcia.

The agricultural land of L’Horta de València has special values as cultural heritage, historical heritage, anthropic landscape and for its heritage architectural and hydraulic work. And also, of course, for its agricultural economic activity (Miralles, 2012).

### 2.2 Transformation process

For a long time, the growth of the city of Valencia and its urban environment has been limited. Until 1960 the city of Valencia grows in the expansion of the historic walled city. The expansion area is developed following the Valencia Expansion Project. Thus, until 1960 remains almost the entire historic huerta of Valencia.



Fig. 1: Detail of Valencia and surroundings in 1944. Historical National Topographic Map of Spain, 1:50,000 original scales.

From 1960 began the first real estate expansive cycle in Spain and Valencia. In Spain and Valencia have been three periods of urban expansion: 1960-1972, 1985-1991 and 1997-2008. he three correspond to three real estate expansive cycles associated with real estate bubbles (Miralles, 2011).

Urbanization produced during successive booms housing bubbles have been very intense in Spain and, particularly, in the Valencia region. It has also been particularly strong in the third period of expansion (Miralles, 2009).

	1990	2000	2006*
Urban fabric	61.670	79.612	85.696
Industrial, commercial and transport units	10.696	18.897	22.988
Artificial non-agricultural vegetated areas	1.303	3.881	4.327
Sum (ha)	73.670	102.390	113.011
% surface areas of Com.Val.	3,17	4,40	4,86

Table 1: Artificial surface in Valencia region according CORINE database (Miralles, 2009).

In the third period begins to offer up to 180 Euros per square meter of land protected not urban developable of periurban Huerta of Valencia. Exactly protected land, with the expectation that the administration will change the urban plan to remove protection and allow its construction. These facts show that the land market to build is not efficient to optimize the uses of land in the territory.

New urban fabric in VALENCIA PROVINCE	Period, 1990-2000 (ha)	Period, 2000-2006 (ha)	Total surface (ha)
Coastal zone	2.630,62	2.115,48	4.746,10
Pre-coastal zone	5.161,90	4.099,04	9.260,94
Interior zone	2.557,44	1.631,67	4.189,11

Table 2: Rural land transformed in urban fabric in Valencia Province, 1990-2000-2006 (Miralles et al., 2012).

Obviously, the price reaches the land for building is purely speculative and turn is generated as a result of speculative selling price reaches the price of housing. In this situation, the extra profits are not produced by the construction and sale of homes but by the change in land value.

In all three periods housing bubble, the expectation of business by changing land use has promoted a tendency to sprawl supported in new transport infrastructure. The process is similar to that occurred elsewhere but in each case with their own local characteristics. This alters substantially the landscape and generates margins urban or peri-urban areas with a specific problem (Magoni, 2012). In any case, the land transformation process is virtually irreversible and this forces us to rethink intervention in these spaces (Treu, 2012).



Fig. 2: Urban fabric in metropolitan area of València in 2011. Generalitat Valenciana, SIOSE geodatabase (GVA, 2011)

So, the process of transforming this periurban agricultural space shows a set of contradictions. It irreversibly destroys a natural resource, agricultural land, to create city. But the city is created by a speculative expectation and not the result of an objective demand of urban activity. Now there are many houses without a market and urbanized areas without buildings.

Urbanization processes in Spain, are planned. Local government approved urban plans that establish areas to urbanize and conditions. Governments administration has short-term objectives. Urbanization generate income for the local administration during the construction phase. Therefore, during the decision-making process are not considered long term consequences. Paradoxically, today foodstuffs are the first export concept of the Valencian economy.

### 3 PROTECTION PLAN OF “L’HORTA DE VALÈNCIA”

#### 3.1 Historical attempts for planning and management of the vegetable garden

The first planning of Valencia metropolitan area is produced by the Plan General de Ordenación Urbana de Valencia y su Cintura (Urban Plan of Valencia and around) approved in 1946. At this time, the Spanish economy operates in autarky regime with the dictator Franco. So, it follows the general approach of reserving most productive agricultural land for food production. For the Valencia metropolitan area, the

urban growth in the plan focuses on central area and the west where there are no productive agricultural lands.



Fig. 3: General Urban Plan of València and Around, 1946. Historical Cartography.

In 1957 the Turia River overflows and produces a great flood causing serious damage. To prevent further similar disasters, decides to build a new river channel with sufficient capacity. The layout of the new channel runs through the south. This changes the territorial structure and motivates the metropolitan plan amendment.

So the Plan General de Valencia y su comarca adaptado a la solución Sur (General Urban Plan of Valencia and the surrounding area adapted to South solution) is approved in 1966.

At this time, Spain is in first expansive economic cycle and first real estate bobble. So, the agricultural activity is considered as an activity of underdeveloped countries and socially undesirable. Gradually, the children of farmers engaged in other economic activities in the sectors of industry, services or construction.

The urban plan of 1966 according to the value system of the time, committed to a great urban development with big symbolic projects. Especially big traffic infrastructure designed for a massive use of private vehicles. Agricultural land is considered to spaces for transform by processes of urban speculation.

In 1978 is approved the new democratic Spanish constitution and legislative powers in urban planning and land passed to the new regional governments. In 1988 is approved a new metropolitan plan, the Normas de Coordinación Metropolitana del Area Metropolitana de Valencia (Coordination Metropolitan Rules for Metropolitan Area of Valencia). This is a new metropolitan plan for establish land reservation for: infrastructures (especially transport), regional public facilities and protected areas. According this plan, an important part of agricultural land is protected but not everything. These metropolitan rules are implemented by Consell Metropolità de L’Horta (L’Horta Metropolitan Council).

The conflict of interest between the Metropolitan Council (which advocates a global vision and makes decisions that limit the ability of decision municipalities) and municipalities (who want freedom of choice to develop their land according to their particular interests) is finally resolved with the disappearance of Metropolitan Council and the metropolitan rules in 1999. So, since 1999, the municipalities of metropolitan area of Valencia define uses of their land by its own urban plan, tutoring with the regional administration but without a regional framework plan.

All such plans are static plans. That is, all of them down rules to possible uses but none provides initiatives for improving the design of the spaces, particularly for the active promotion and improvement of agricultural land.

### 3.2 The last attempt: regional action plan for the protection of L'Horta de València

Approximately in 1970 the first citizen movements arise in favour of protecting the agricultural space of L'Horta and against urbanization of agricultural land to residential areas and infrastructure. These citizen movements have been active, with greater or lesser intensity, to the present.

In 2000 he presented a popular legislative initiative in Valencia Parliament for protecting agricultural land of L'Horta. The initiative collected 113,000 signatures but was rejected. From these facts, successive governments have made efforts to recognize values of Valencia agricultural land of L'Horta. Actually initiatives have been a public acknowledgment of their values but no effective protection.



Fig. 4: Promoters of the popular legislative initiative for the protection of L'Horta in act of delivery of the signatures collected.

In 2004 is approved the Regional Planning and Landscape Protection Act. This law establishes the development of a Territorial Action Plan for the Protection of L'Horta. The work to drafting the plan began about 2006. In 2007, Regional Government assumed direct drafting the plan. In early 2011 completed the drafting of the plan. The plan is available in [www.cma.gva.es](http://www.cma.gva.es) (Plan de Acción Territorial de Protección de La Huerta de Valencia). Currently the plan is not yet approved.

For the preparation of the plan were made very rigorous and comprehensive analysis of the situation of the agricultural landscape of L'Horta. We also performed a very thorough process of public participation (July to December, 2008) which included public appreciation of the landscape of L'Horta. Therefore, the development of the plan has been a remarkable effort. Also conducted several "working groups" of experts on different realities of agricultural land: irrigation, agricultural economics, transport infrastructure, rural-urban relationship, sociological perception, stakeholders,



Fig. 5: Image of L'Horta, 2004. Picture of author.

The drafting team believes that the planning of this space cannot be reduced to a "passive" planning. That is, a geographical planning of uses and territorial rules for permitted uses. L'Horta landscape is a living landscape product of human labour. Thus, it is necessary to promote economic activities that produce the landscape. And we need a landscape management system that allows the collection of revenue to invest in promotion of the landscape. These ideas already point in the text of the popular initiative legislative for the protection of L'Horta.

This entire means that besides a regional planning, other plans are required to promote socioeconomic activities in the landscape of L'Horta and also laws to implement a management system of that landscape. So the intervention in the landscape of L'Horta arises in three axes:

- Regional planning: Territorial Action Plan for protection L'Horta de Valencia
- Complementary socioeconomics plans
- Complementary instruments

### 3.2.1 Territorial Action Plan for protection L'Horta de Valencia

This plan is designed as a conventional regional plan but with special attention to the landscape. In particular:

- Infrastructures
- Urban border
- Cultural, hydraulic and architectural heritages
- Visual landscape
- Amenities and facilities

The plan includes a prospective part where are planned projects and actions to promote activities.

### 3.2.2 Complementary socioeconomics plans

In addition on the regional plan are considered necessary:

- Agricultural plan: for to optimize the agricultural production and to promote ecological agricultural production.
- Irrigation modernization plan: usually agricultural land is irrigated by sheet of water and is possible improving irrigation systems to prevent losses and save on water consumption.
- Plan for rural tourism and recreational uses: the landscape of L'Horta within the metropolitan area of Valencia has a good tourism potential but it necessary to compatible with agricultural activities.

### 3.2.3 Complementary instruments

Many planned actions to improve the landscape or promoting activities need investment. You need an entity manager with ability to earn income from economic activities in L'Horta and invest in improvements such income. Only by law you can improve a specific management system for this space.

### 3.2.4 Methodology

The methodology for the elaboration of the plan is divided into three phases:

Phase 1:

- Identify the most valuable landscapes and spaces of connection between them
- Identify the major conflicts that threaten the preservation
- Identify change predictions in urban plans and programs

Phase 2:

- Identify quality objectives, level of protection and public use for different landscape units

Phase 3: Actions for

- Protect and connect most valuable landscapes

- Define sustainable systems for management and financing agricultural activity
- Integrate infrastructure and urban border in agricultural landscape
- Protecting and valuing cultural, visual and environmental heritages
- Valuing L'Horta for recreational and cultural public use



Fig. 6: Zoning proposal in Territorial Action Plan for protection of L'Horta (GVA, 2011)

### 3.2.5 Final proposal

From all this comprehensive approach, finally only regional plan was developed in full but not yet approved. During the execution of the work, the administration has made many public statements in favour of the preservation and promotion of the symbolic space of L'Horta. But it has resulted in any positive action to solve problems.

## 4 CONFLICTS AND CONTRADICTIONS

After the experience created by this case, one wonders why it has not been successful protection and maintenance of the historic agricultural land of Valencian huerta. On the one hand there are professional and technical capacity to address the problems and propose solutions for the future. Thus, the cause of failure in conservation policy L'Horta be sought primarily in management, not in planning.

Moreover, agricultural space of L'Horta is not a particular case or local. Rather, it is a paradigmatic management case of natural assets necessary for the future in a society that is playing its own existence.

In fact there are three contradictions, unresolved, which impede progress in the efficient management of natural resources.

First, the sustainability management. Society tends to give priority to the immediate benefit and punishes the governors who demand current sacrifices for future benefits. This dominant social value is generating environmental bubble.

Second, the ownership of land for building prevents the maintenance soil as a natural resource. Particularly in situations of speculative value of land to build, such land acquire prices so high that no one dares to stop construction. Although it is irrational and generate misery in the future.

Third, the government of the territory is not adapted to the current needs of sustainability. Territorial administration do not have appropriate tools to ensure environmental and economic sustainability of the activities.

#### **4.1 The environmental bubble: the contradiction between sustainability and immediate individual interest**

Since 1998, the World Wildlife Fund publishes the Living Planet Report. The last report is in 2012. According these reports, since 1975 approximately, the ecological footprint of all planet activities is larger than the planet's surface that produces environmental goods flows consumed by society. So, the planet's Natural Capital decreases each year. The natural resource consumption and pollutant emission current is possible because it is being consumed each year a portion of the stock of such resources.

So, for a long time, economic activity is based on unsustainable consumption of natural resources. In other words, it is generating an ecological bubble: the current consumption level is at the expense of lower future consumption possibilities. But people do not want to renounce their current consumption or their current income level. As time goes on, the situation will become increasingly unsustainable.

It is clear that to achieve a sustainable situation, should be kept the natural resource stock (and if possible increase it) to ensure the flow of natural goods consumed (and if possible increase it).

In case of L'Horta, we must be this agricultural landscape as natural resources. But stakeholders want immediately incomes by land speculation (so agricultural land destruction).

In agricultural periurban areas we have two major issues for sustainability: urban sprawl and farmland deficit.

##### 4.1.1 Energy deficit and urban sprawl

In Spain, and particularly in Valencia, all urban development is planned. But stakeholders prefer urban development (short-term income) to agricultural land maintenance (short-term low income but long-term activity). So we have in metropolitan area of Valencia an urban sprawl planned. Urban sprawl produces very inefficient energy consumption.

From this point of view should concentrate urban growth compactly on the land without value as a natural resource (en the case of Valencia, in the west).

##### 4.1.2 Farmland deficit

It is known shortage of arable land on the planet. This produces food speculation and land hoarding by some countries (to ensure availability of food).

From this point of view, must maintain highly productive agricultural land and urban growth divert to other places.

#### **4.2 Reviewing theory property: the building land market is not efficient to optimize the location of uses in the territory**

The theories of Adam Smith on land ownership focus on farming. Defend the property to convert the farmers in direct beneficiary as a result of their own efforts. In fact, agricultural land is a product of farmer labour.

But the builder does not need the ground but underground. The constructor destroys and removes the ground to cement his work/built on the basement.

The underground is a natural good. Nobody has made the underground. Nobody has made underground. Therefore no one should pay anything for a good that nobody has produced. The price of underground is only a speculative price. If we pay for the underground, pay someone to do nothing and, consequently, discourages productive economy. So the underground should be public.

The value of land for building, or underground, in free market depends on the expectation value of the intended uses. Its value is absolutely independent of the economically optimal use for each area of the

territory. Thus the land market to build does not optimize land use, nor does it create a competitive economic activity. In contrast, generates irreversible destruction of natural resources, urban sprawl and increased costs of constructing and maintaining the networks of urban services.

This approach involves linking the building usufruct of the surface; compensate the landowner for its rural value and efficient administration in the management of natural resources for the future.

### **4.3 Reviewing the governance of the territory**

Valencia's case shows the need to review the organization of the administration. Historically governance is seen as a representative of the people. May be more appropriate at present conceive the ruler as an administrator hired by the people to administer public affairs (state budget, property, assets, natural resources, ...), an administrator that must account for its management.

One of its functions should be the maintenance of the natural resources in the territory that may be needed in the future.

This approach is particularly important in the field of local administration. Spanish municipalities have their origin in the Roman administration (between 200 BC and 400 AD). An important part of their characteristics are maintained today. It is an organization designed for colonization of new territories. But today our country is fully occupied and the problems and the tools available are substantially another.

In addition, natural resources, agricultural lands and landscapes should form networks to maintain the connection between ecosystems. This new network we call green infrastructure.

#### 4.3.1 From roman municipality to e-governance

Initially municipalities were created to administer the territory when transport systems were based on walking, the horse and carriage. The city was a perfectly bounded space and outer space was completely rural.

From 1900 he popularized the use of the car then urban living space extends diffusely. With the expansion of the Internet, vital urban space becomes a space without limits. The functional boundaries of cities gradually disappear. Increasingly, cities function in network.

The network of personal relations overlaps the network of personal relations by transport which, in turn, overlaps the network of relationships through internet.

The municipality as an organization that manages all public services in limited physical space has become obsolete. For some services still needed direct relationships, to other geographical scope more efficient is the region and other can be managed by internet.

So it's necessary reviewing the organization of public administration. Its necessary rethink the functions of public administration, to include between its functions the guarantee of sustainability in land use and equip it to accomplish its function.

If a significant part of the revenues of the municipalities, as in Valencia, comes from urban development and land speculation, it will never be possible to rationalize land use with sustainability criteria.

#### 4.3.2 Green infrastructure in the territory of the networks

In the territory of the networks it's necessary to guarantee a new network: the green infrastructure. The green infrastructure should consist of the territorial spaces that contribute to the ecological footprint (which I prefer to describe as ecological larder because they are spaces that nurture society of environmental goods) connected by ecological corridors to keep the connection between ecosystems.

Besides, public administration must be prepared to ensure the maintenance of such spaces. Creating a Natural Capital Bank (an environment power) may be an option. This bank operates under the principle of "political protection and technical safekeeping". That is, the legislature decided to protect spaces so justified. Once an area has been protected, the safekeeping corresponds to the Natural Capital Bank (independent of political power) and you cannot remove the protection.

### 4.3.3 The CAP towards 2020

At the moment, it is in process the new Common Agricultural Policy (EC, 2010). The base document, The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future, structure the new policy around three strategic aims: food security; quality, value and diversity of food; and employment.

These strategies involve changes in food security, environment and climate change and territorial balance.

Particularly, the new CAP includes what “The active management of natural resources by farming is one important tool to maintain the rural landscape”. And, according EU 2020 Strategy, “Targeting support exclusively to active farmers and remunerating the collective services they provide to society... “.

All these approaches are according with objectives for maintain the periurban agricultural areas as L’Horta de València.

But finally, the success of this new policy is strongly conditioned by the management system for application the European funds and efficiency of public institutions responsible for its implementation. For example, no sense in applying EU aid for maintenance farmland when no safeguards to protect such spaces against its urban development in the future. To avoid these situations can be useful contracts for land stewardship.

## 5 CONCLUSION

The agricultural land of L’Horta de Valencia is a particular landscape with high value environmental, economic and as heritage. Also it is a symbol of natural resources that its necessary to maintenance for the futur.

Although their values are recognized by the Valencian society for a long time, yet the regional government has not been able to establish an effective system for protection and management.

It is a paradigmatic case of inability to solve problems of sustainability in metropolitan area. To progressively correcting environmental bubble it is necessary to solve the contradiction between sustainability and immediate individual interest.

The building land market is not efficient to optimize the location of uses in the territory. So its necessary reviewing theory property to achieve sustainable progress.

Finally its necessary reviewing the system of governance of territory for to adapt public administration to new functions (garantee of sustainability) with new tools (e-governance) in the territory of networks.

The new European CAP can help make changes if appropriate tools are implemented.

## 6 REFERENCES

- Biot Gimeno, Carmen: La agricultura ecológica, alternativa para la preservación de la Huerta de Valencia. Generalitat Valenciana. Conselleria d’Agricultura, Pesca i Alimentació. València, 1998.
- Antolín Tomás, Carmen et alt: El suelo como recurso natural en la Comunidad Valenciana. Generalitat Valenciana, Conselleria d’Obres Públiques, Urbanisme i Transports. València, 1998.
- Europe’s Environment: Dobris Assessment. <http://www.eea.europa.eu/publications>. European Environment Agency, 1995.
- Miralles i Garcia, José Luis: Los espacios agrícolas en las periferias de las áreas metropolitanas en España. El caso de L’Horta de València. In: Cooperare attraverso l’Atlantico. Analisi, strategie e progetti per la riqualificazione dei margini urbani nei paesi latini europei e americani. Laboratorio di Cooperazione Internazionale, Politecnico di Milano. Milano, 2012.
- Miralles i Garcia, José Luis: Real estate crisis and sustainability in Spain. In: Proc of the 5th Conf. on Sustainable Development and Planning, eds. C.A. Brebbia and E. Beriatos, WIT Press, pp. 123-132. Southampton, 2011.
- Generalitat Valenciana. Sistema de Información Territorial de la Comunidad Valenciana. <http://www.cma.gva.es/web>
- Miralles i Garcia, José Luis, Díaz Aguirre, Susana & Altur Grau, Vicent Jesús: Environmental impact on the Mediterranean Spanish coast produced by the latest process of urban development. In: WIT Transactions on Ecology and The Environment, Vol 155, WIT Press, pp 379-389. Southampton, 2012.
- Miralles i Garcia, José Luis: Sustainability regulations in urban planning: the experience of the Autonomous Community of Valencia (Spain). In: WIT Transactions on Ecology and the Environment, Vol 120, WIT Press, pp 3-12. Southampton, 2009.
- Magoni, Marcello: I margini urbani nei paesi latini, tra usi rurali, urbani e informali. In: Cooperare attraverso l’Atlantico. Analisi, strategie e progetti per la riqualificazione dei margini urbani nei paesi latini europei e americani. Laboratorio di Cooperazione Internazionale, Politecnico di Milano. Milano, 2012.
- Treu, Maria Cristina: Ripensare i margini urbani. In: Cooperare attraverso l’Atlantico. Analisi, strategie e progetti per la riqualificazione dei margini urbani nei paesi latini europei e americani. Laboratorio di Cooperazione Internazionale, Politecnico di Milano. Milano, 2012.
- Generalitat Valenciana. Territorial Action Plan for protection of L’Horta de Valencia. <http://www.cma.gva.es>
- European Commission. The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future. [http://ec.europa.eu/agriculture/cap-post-2013/communication/index\\_en.htm](http://ec.europa.eu/agriculture/cap-post-2013/communication/index_en.htm)