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Urban Agriculture for Landscape Regeneration:
Analysis And Proposal For Várzea, Brazil

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Academic Year 2015/2016
ABSTRACT

This thesis develops a study about the use of agriculture as a tool for the regeneration of urban landscapes with historical heritage, using as theoretical reference the European Landscape Convention (ELC), the Unesco conventions of 1972, 1992 and 2002 and as research method the work of the COST Action - Urban Agriculture Europe. The ELC implementation, together with the studies and practices of each Member State of the European Union, shows promising results for the involvement of communities in the management of historical spaces, as this subject is not well developed in Brazil. The main objective of the study is the application of the analysis of the agricultural landscape in the past and present time in the case study of Recife, Brazil, and the redevelopment of an area in the neighbourhood Várzea through urban agriculture initiatives using the methodology and mentioned theoretical references.

First, the conventions and reference documents about the concept of landscape, heritage and urban agriculture are analysed followed by the study of urban agriculture and landscape heritage at local and national level. The second part contains an analysis of the urban, natural, sensorial and social landscape of the design site, together with a study of the historic landscape evolution through diachronic and synchronic models. The results of named analysis resulted in a design strategy, that later unfolded in a landscape design proposal.

The last part consist of the proposal of a project that aims to reactivate the innate and natural capacities of that space, thus improving the relationship of the population with the heritage and landscape, aiming at improving the spatial and life quality. The project, focusing on the community involvement, develops its design actions in the fields of conservation, enhancement, restoration and management of landscapes.

As conclusion, the application of the ELC concepts, along with the Unesco guidelines and the results of the COST Action Urban Agriculture Europe, were considered suitable also in the Brazilian context with minor modifications, due to the regional differences, in the subjects of heritage awareness, accessibility and community involvement. These design tools with adaptations can be applied in order to increase the historical awareness and environmental and landscape quality with the use of urban agriculture.

Keywords: Urban Agriculture, Architecture, Planning, Landscape, Regeneration, Heritage.
ABSTRACT

Questa tesi sviluppa uno studio sull'uso dell'agricoltura come strumento per la rigenerazione dei paesaggi urbani con valore storico, utilizzando come riferimenti teorici la Convenzione Europea del Paesaggio (ELC), le convenzioni dell'Unesco del 1972, 1992 e 2002 e come metodo di ricerca le articoli del COST Action - Urban Agriculture Europe. L'implementazione della ELC, insieme ad altri studi e pratiche di ogni Stato Membro dell'Unione Europea, ha mostrato risultati promettenti mediante l'integrazione delle comunità nei progetti per la gestione dei paesaggi storici, un tema non ancora ben sviluppato in Brasile. L'obiettivo principale dello studio è l'applicazione della lettura del paesaggio agrario storico e attuale sul caso studio di Recife, a Brasile, e il progetto di riqualificazione di un'area del quartiere di Varzea attraverso iniziative di agricoltura urbana, con la metodologia e i riferimenti teorici mentionati.

Inizialmente, vengono analizzate le convenzioni e i documenti di riferimento sul concetto di paesaggio, il patrimonio e l'agricoltura urbana seguiti dallo studio sulla gestione dell'agricoltura e del patrimonio paesaggistico a livello locale e nazionale. Nella seconda parte si procede all'analisi della morfologia urbana, del paesaggio naturale, sensoriale e sociale della regione, insieme all'osservazione dell'evoluzione storica del paesaggio, attraverso i modelli sincronici e diacronici. I risultati delle analisi mansionate confluiscono in una strategia progettuale.

L'ultima parte consiste in una proposta di progetto che mira a riattivare la vocazione agricola di quest'area, migliorando così il rapporto della popolazione con il proprio patrimonio, al fine di potenziare la qualità del paesaggio e dei luoghi di vita. Il progetto si concentra sul coinvolgimento della comunità e sviluppa le sue azioni di progetto nel campo della conservazione, valorizzazione, creazione, restauro e gestione dei paesaggi.

In conclusione, l'applicazione della ELC, insieme con le linee guida dell'Unesco e gli esiti della ricerca COST Action Urban Agriculture Europe, sono risultati adatti anche al contesto brasiliano con piccole modifiche, a causa delle differenze regionali, nella consapevolezza del patrimonio, nell'accessibilità e coinvolgimento della comunità nel progetto. Questi strumenti di progettazione, seppur con alcuni adattamenti, possono essere utili al fine di aumentare la consapevolezza storica dei luoghi e la qualità ambientale e paesaggistica attraverso l’uso della agricoltura urbana.

Parole Chiave: Agricoltura Urbana, Architettura, Pianificazione, Paesaggio, Rigenerazione, Patrimonio.
2_GOALS

The objective of this thesis is to produce a multi-scale project for the regeneration of the landscape of Várzea, a neighbourhood located in Recife, Brazil. In which urban agriculture is a tool to achieve this goal. As a methodology the European Landscape Convention principles will be applied as a framework.

The approach of this paper is to attest the reproducibility of the models and theories studied and applied in Europe in the Brazilian scenario, since there is a quite distinct conceptual approach towards landscape and heritage in the two regions.

As a tool to achieve the goal of landscape regeneration urban agriculture will be used as a key element, considering the peri-urban characteristics of the region and the agricultural history of the neighbourhood.

Specific Objectives

1. Use the ELC and UNESCO parameters to analyse the site's landscape.
2. Use urban agriculture as a main element on the design and policies for the area.

3_METHODOLOGICAL APPROACH

The methodology that will be used for the development of this thesis will be the hypothetic-deductive. This method is the more suitable since there is a hypothesis; in which the landscape has conservation issues and that there are tools to solve it. While the analysis will provide the deductive material for the confirmation, or not, of the hypothesis and consequent development of the design proposal.

4_BENEFITS OF THE PROJECT

As presented before, the topic of study of this paper it is fairly new to Brazil, and a study, which uses the must updated approaches aligned with the EU and UNESCO. Introducing another frame to analyse and work with landscape, more broad, holistic and inclusive. An answer to a diverse landscape in which heritage is preserved and capabilities enhanced. This work can be fairly beneficial, since it brings a different form to solve the architectural and urban issues faced by the region, providing a wider source of tools for the architect’s work. The concepts and methodologies that work in other places can be adapted to other regions, an exchange of experiences and knowledge.
5_SITE PRESENTATION

The area chosen to be the site of analysis and study of this thesis is the neighbourhood of Várzea, located in the city of Recife, which is the capital of the state of Pernambuco in Brazil. A location that has a particularly interesting historical background, linked with the sugarcane industry and commerce. An interesting location but with a series of issues when concerning the conservation of its heritage, especially the agricultural, by the government and local population.

The neighbourhood of Várzea, meaning lowland or floodplain in Portuguese, is has been inhabited for various centuries and according to Cavalcanti (1998, p. 145) was the first area to be given to colonists in the beginning of the occupation of the area that now is Pernambuco in the 16th century.

As the name suggests Várzea is flat and due to the river it is prone to floods, on the upper map we can see considerable areas that are composed of river soil. On the urban areas these floods are a serious issue that affects the area since its occupation. The neighbourhood is also know by its considerable natural vegetation, two large natural protected areas, even though not as large and well preserved as the northern reserves of Recife, these two areas are quite relevant, especially when the local climate is considered. The presence of these large Atlantic Forest reserves promote a much more mild climate when compared to the other more densely urbanized areas of the city.

The occupation of the area that now is the neighbourhood of Várzea started as farmland, on the right bank of the river Capibaribe, donated in the beginning of the 16th century by the Portuguese Crown to the first settlers. It stated with Gerônimo de Albuquerque, who received a plot from the governor
Duarte Coelho in the year of 1535 (FIRMO I. in Meu Bairro É O Maior, 2003).

The main land owner was Diogo Gonsalves, which owned more then 3 sugarcane plantations, including the "Várzea do Capibaribe" or "Lowland of the Capibaribe", from where the present neighbourhood name comes from. Around 1570 the friar Vinicente Salvador visited the lands during a military campaign against the natives; at that time he stated that Várzea was already well organised, productive and populated. (CAVALCANTI, 1998 p. 145 apud PEREIRA, 1983)

Map 4 - Map from 1616 depicting the village of Recife and Olinda


In 1630 there were 16 plantations, engenhos in Portuguese, in activity and a small urban settlement was formed on the right side of the river, it served as the region hub for commerce and social gatherings. The urban occupation started before 1612, already with a chapel erected since the early records are from this year and the area appears to be already of considerable size. The main engenho, initially owned by Diogo Gonsalves was later aquired by General João Fernandes Vieira, an important figure on Brazilian history for his military prowess (COSTA 1981, p. 170).

According to Menezes at al. (2015, p. 5) there was a direct link between the plantation and the infrastructural development, the complex activities necessary to produce sugar needed a good amount of workers, which came with their families. This resulted in settlements, which in some cases could be just like a village, this is the case of Várzea. In time and with the growth of the sugar economy, the settlement became officially a "freguesia", the Portuguese equivalent to a parish. It comprised, however, an area much larger then the current neighbourhood, taking all the northwest side of the current city's area. One important fact is that During the Dutch occupation (1630-1654) Várzea was a bastion for the Portuguese-
Brazilian freedom fighters as was de facto the capital of Pernambuco province. (RODRIGUES, 2015).

During the Imperial period, as Costa (1981, p. 177) explains, the area of Várzea continued to be a vital area for the economic life of Recife and the province. The mother church of the parish, originally built in 1612, was reconstructed and modernized in 1859 by the vicar João Batista da Silva.

One interesting element is that in the 19th century until 1880 the region also was also used as summer holiday spot for Recife's high society. The crystalline and supposedly medicinal waters of the river Capibaribe were praised by locals, this use lasted until the industrialization cause the river to be polluted and Várzea lost this leisure element. However the river was a source of food for many local fishermen for many more years as Moura (2002, p.31) writes, these activities lasted until the end of the 70’s.

An important element that allowed Várzea to keep its relevance even with the growth of the urban life in Recife centre was the construction of a tramline in 1883; this connected the parish and areas on the outskirts of the city to the main urban area. This line lasted until its total deactivation. These trams were pulled by animals and operated by the Pernambuco Street Railway Company, until displaced by electric trams in 1914 by the British company Pernambuco.
Tramways. The system was completely deactivated only in 1962, when a bus system was implemented

Map 5 – Transportation (Varzea line highlighted)

Source: http://www.labtopope.com.br/

Brazil became a republic in 1889 and faced serious economic and social struggles during the overthrow of the monarchy. It resulted in various issues that affected the sugar-based economy, since the coffee became the main export of Brazil in this time; Pernambuco lost its focus but was still powerful and rich even with a smaller production. The region of Várzea was deeply affected. The main plantation, Engenho São Francisco, produced 70 tons of sugar per year in 1914. The landowner, Mr. Barros de Lacerda had acquired in 1890 also two other plantations the São João and São Cosme.

When he died in 1929 his sister, the unmarried Maria da Conceição do Rego Barros Lacerda, inherited it and administrated the business until she transferred its ownership to Ricardo de Almeida Brennand, her godson, in 1933. At this time the property produced only 28 tons of sugar yearly. (RODRIGUES, 2015)

Img. 3 - Early photo from the Engenho São João

Source: Rodrigues (2015)

The sugarcane activities lasted until the 1940's when industry and residential activities became the main activity in the area, on the next topic their influence will be better described. The industrial practice of the plantations, in a system that can be called agro-industrial, made it easy for the transition to happen, the way the plantations were organized and the continuity of the sugar industry made it possible for the industrial
expansion to happen in the same environment as the agricultural lands.

The years of from 1950 to 1960 were very controversial; Brazil was in a turbulent period, years of growth followed by a deep recession that culminated with a coup that overthrown the democratic government by a military junta. The hygienist urban policies were implemented, especially under the tenure of governor Agamenon Magalhães, in the early 50's with the policy of eradication of the favelas, at the time called "mocambos", in the city centre. These poor communities were totally destroyed and its population was displaced out of the city centre to the outskirts and peri-urban regions, like Várzea. Large communities were formed. This changed the image of from a rural isolated area to a poor unplanned neighbourhood, although well connected to the main urban centre. (LUCENA JUNIOR, 2010, p. 33).

From the end the 1960's the region became fully integrated to the urban tissue. However as Lacerna Junior (2010, p.8) describes from its interviews with local residents until from the 40’s to the 50’s many parts of the area had public electricity, water supply or public services. The unregulated process of urbanisation and urban hygienist policies aimed to the poorer populations that moved to the region and ended up urbanizing, which resulted in two different realities. The rich people and the industries were highly praised and had support from the government but the poor areas were ignored. The public services arrived in the decade of 1960's to supply this second half of the population with basic services.

During the 80's and 90's there was a big shift on the infrastructure, streets were paved, electrical and water system provided by the municipality. One element that is relevant to the urban configuration of the neighbourhood is the construction of various residential buildings from 2 to 4 stores in structural
blocks; these buildings are very characteristic from the period of low economic development but a high demand for a middle class housing.

The industrial compound also grew much larger, with the installation of a glass industry, cement factory, Cinzano distillery and, one important cultural facility that was placed on the site of the deactivated ceramics factory of the Usina São João. As Santos Filho at al (2012, p. 34) says, a previously unknown member of the Brennand family, the sculptor and painter Francisco Brennand created an atelier and studio in 1971, renovating the abandoned industrial buildings that were deactivated between 1943-45. The Oficina Brennand is major cultural centre in the Recife; the compound has galleries, sculpture gardens, auditorium, restaurant and many other cultural and production facilities. One important architectural element is the chapel, which is an intervention on the ruins of an ancient house; the Pritzker laureate Paulo Mendes da Rocha designed it and is an important architectural element along with the sculptures and panels of the compound.

Another important infrastructure that changed the perception of Várzea and attracted lots of attention to the neighbourhood also comes from the same influent family. In 2002 the industrialist Ricardo Brennand opens his namesake institute, with an exhibition of the Danish collection of Albert Eckhout. Its galleries host the one of the biggest private blade weapons and armour collections, with more than 3000 pieces, a library focused in the Dutch invasion period and the biggest private collection of the Flemish painter Frans Post. The institute is composed by a group of buildings in a contemporary interpretation of late medieval architecture mixing it with strong concrete elements from Brazilian modernism. These previously mentioned cultural facilities are extremely important for the neighbourhood since various visitors come to experience and supported the regeneration of the area. (SANTOS FILHO at al 2012)

**5_1 The sugarcane history of Várzea**

The area of Várzea was one of the most important for the region due to its proximity to the harbour of Recife and the fertility of its land. The now neighbourhood has an important agricultural heritage, even though today it the agricultural past is obscured by the urban environment. But it is part of the immaterial heritage of the area. This past is not only seen on the monuments, ruins and names of streets and sites, but on the urban morphology itself.
The obvious importance of sugarcane cannot be denied, however the plantations also had to buy food and manufactured products, because of this commerce urban settlements were not uncommon to be formed around groups of plantations. Várzea was not an exception, as previously described the urban settlement of the area was quite relevant. As Costa (1981, p. 178) recounts in 1630 a Dutch officer recorded the urban area around the plantations on the river Capibaribe were quite inhabited and had good houses of free folk. This free population apparently had relatively large plots of land which produced all sort of fruits, vegetables and considerable crops of manioc, important food source in Brazil up to this day. The area also had flocks of animals and practiced fishery and catching shrimp on the nearby river.

Sugarcane is a semi-permanent culture, since it is possible to harvest between three to five times before the field is replanted, although this practice reduces the productivity each season the costs of replanting a whole field is too high. In the northeast the harvest season is between November and March. The following scheme shows the process done on the sugarcane to ensure its productivity, and due to this practice the landscape of the fields is usually green the whole year. (AGRIC, 2016)

In the lands of the Usina São João in the year of 1917 was founded a homonymous ceramics industry by the Brennand family, with close ties to the Lacerda family as mentioned, this can be seen as the start of the decay of the sugarcane activity in the area, since lands originally considered productive were transformed in an industrial area. As already explained the Brennand acquired the lands of the plantations in 1933. The Usinas were productive until 1943, when the production of sugar and alcohol ends and the land is
used for other industrial activities. That vast area, once occupied for centuries by sugarcane was now used for industries producing ceramics, tiles, porcelain, glass and steel. All by the Brennand Group. (RODRIGUES, 2015)

The previous rural neighbourhood turned into a full urban area during the second half of the 20th century. As Campagnol (2008, p. 78) describes, the growth of the engenhos created urban settlements, some becoming villages or cities, in the case of Várzea the city of Recife and the urban settlement of the plantations grew together, which resulted in the urban merge much later in time. From 1950 to 1970 the agricultural scenario came to an end. However, only a few oral records of the transition period exist, they are a tool to analyse the social perception of the agricultural scenario of the area and how the urbanization process happened. As Lucena Junior (2010, p.3) reproduces the following record, translated by the author of this paper, where it can be seen the process of urbanization and how Várzea actually became part of the urban tissue.

"This (area) was a grassland, there were only bushes, vegetable gardens, cattle farms, you know? I met Doctor Amazonas, the first rector and founder of the university; he came in front of my shack and called a person on sidewalk... He said, 'Come here, you want to work?' many people wanted, but others did not. It was to clean the land, to start building the university. I saw everything; see that tall building over there? When I arrived only the hospital existed, but only the structure. Was, was ready, only the concrete grid of the structure, all the rest came after. I saw the building this tall building. I saw the construction of the Chemistry School, saw the Medicine School. That one was almost opened (when I came). Look, Juscelino (President of Brazil 1956-1961) walked around here for on that road to inaugurate the School of Medicine "

(LUCENA JUNIOR 2010, apud MARIA LEAL)

This record comes from a resident since the 1950's, people who saw the process of urbanization, and expressed the general view that before it "was a grassland", an area that was actually agricultural land, still productive but, that was abandoned by the major power players and landowners. Later on Várzea became an unplanned poor neighbourhood, a satelyte of the university and the road infrastructure build along with it. As the record shows, the agricultural space and the history were regarded as opposite to the development of the urban growth. It shows the cultural perception of agriculture and how Várzea turned from a rich and important agricultural centre to a poor suburban land.
6_THEORETICAL DISCUSSIONS

In order to design and propose a project and policy it is essential to comprehend the subject that is the matter of the architectonic intervention. This paper focuses on the study of landscape and urban agriculture with the goal of landscape regeneration. The theoretical definitions and variations on interpretations are now exposed so the proposal can have a strong backbone based on the accumulated knowledge.

"The landscape, we say, rises when, at the ground, a wide dispersion of natural phenomena converges to a particular type of unity, different from the sage in his causal thinking, worshiper of nature with his religious feeling, the farmer with his teleological purpose or the strategist rightly comprehend this visual field."

(SIMMEL, 2009, p.13)

Oxford Dictionary "landscape" comes from the 16th century Middle Dutch, and denotes a picture of a scenario. In the writings of Simmel (2009, p. 7), the concept of landscape is a product of modernity, with its origins coming from the illuminist philosophy. This philosophical movement ended the medieval unitary, since it stated the separation mankind from nature. In the post-medieval concept, landscape protrudes from nature; it is part of it but not all.

"While been nature, man felt the landscape without understanding it as such, when landscape is separated from nature it is understood as landscape"

(VERAS, 2014, p.74)

As said in the introductory part, the work site has a historic background rather important for the city it lies in; therefore heritage is a key topic of discussion. When concerning heritage the academic and policy-making organizations required a complex body of conventions and codes in order to dully protect and assess the valuable landscape and its layers of information. Heritage cannot be disassociated from landscape; they are considered as one entity for the purposes of this paper. Heritage is "a system of historical, material and immaterial relations, that instruments capable of safeguarding and enhancing such a system" (COUNCIL OF EUROPE, 2008 p. 70)

The contemporary holistic approach towards landscape started in 1972, when the UNESCO issued in its general conference the "Convention Concerning The Protection of World Cultural and Natural Heritage", also know and WHC. The following quotation shows
the narrow and almost a dichotomy between nature and man made cultural production.

At the 1992 United Nations general convention, a new document is issued, now recognizing a new category of heritage, in which the space and culture are symbiotic in nature, the cultural landscapes. It can be analysed that in 1972 the UN in a broad way understands the value of culture in space, in 1992 the "cultural landscape" is added as one of the categories of listed heritage. As a direct consequence of it, many sites inscribed previously on the list of UNESCO Heritage Sites were defined as "mixed-site", a fact that caused certain definition issues, cultural and mixed-sites both consider the combination of the landscape and its population's culture, however Fowler analyses that "[...]" The ‘cultural landscape’ concept is based on the principle that such a landscape is greater than the sum of its parts." (FOWLER 2003, p.17). Stating that an anthropomorphic landscape without the culture, which created it, looses most of its value and significance, it is only valuable in its totality when perceived and recognized as a complete group.

The WHC of 1972 puts nature and culture almost as antagonists, while the new convention puts those constituents amalgamated by culture. As said previously, the "mixed-sites" are now "cultural landscapes" and are defined on the first article as the "combined works of nature and man", so should be selected when their universal value is clearly defined in a geo-cultural area and are distinct elements of such regions. This combined matter involves the non physical aspects of landscape and the consideration of immaterial heritage as the author explains that the UN's direction “the growing recognition that material and immaterial, tangible and intangible [...] factors are all intertwined in the physical heritage of many countries.” (FOWLLER, 2003, p.19), this intangible values are part of the cultural aspect that considers the inseparable union between culture and the formation of a landscape that needs to be protected as an unity.

In 1992, a prolific year for the UN, a new document is issued by the UNESCO via a new convention. In the final document it can be perceived that the international community aims its efforts in protecting the heritage and landscape as a whole entity now. Since it guarantees the value of urban, industrial and, with special importance for this paper, agricultural landscape. It also gives special attention to the participation of the community and their values on the policies of protection and regeneration, which is an essential asset for the maintenance of sites, recognized since the 1972 Convention and highlighted in the new document.
At the second decade of the 20th century, the UNESCO works on matters concerning the most of the recent concerning on landscape preservation, where it states a series of recommendations, focused now in the solemnly on the urban environment. The urban heritage is considered as a complex layering process; key to the recognition of landscape and culture, in its preamble the UNESCO states that:

"[...] urban heritage is for humanity [...] an historic layering of values that have been produced by successive and existing cultures and an accumulation of traditions and experiences, recognized as such in their diversity"

(UNESCO, 2011, p.5)

The UN focuses the 2011 Convention specifically on urban issues, aiming on the heritage that faces the recent threats of the intense urban growth from the last century. The use of landscape to characterize the city environment is fairly recent, used first in 1972 at the magazine "Architectural Review" in an article by Gordon Cullen. As initially landscape characterized only the natural environment a focus on the city as "urban landscape" occurred only at the second half of the 20th century due to the study of the urban phenomena and relations with the environment.

One of the main elements highlighted as a threat to urban heritage is the massive migration, which caused the urban growth and consequent cultural changes derived by it, "the largest human migration in history", so it is essential to the UN to preserve the heritage while providing the expansion and reorganization of cities in order to accommodate the new resident in order to avoid "Rapid and uncontrolled urbanization, however, may frequently result in social and spatial fragmentation [...]" (UNESCO 2011, p.6) damaging the perception and maintenance of heritage sites, since they depend on the culture which formed them. Without their culture, heritage becomes a monument of museum piece, not a living embodiment of their history.

The convention has at the third chapter, concerning policies recommends the use of "landscape approach" a policy stated by the IUCN in which the landscape is a main element of the design method, it states that landscape integrity as a decision-making element for any major intervention in the city.

The UN places a considerable focus on updating the recommended actions towards heritage; it considers the role of the population, sharing responsibilities between the people and the private sector. The consideration of various stakeholders, not only the government, is a step towards the holistic preservation
of the city in order to achieve a more harmonious urban life, as "Special emphasis should be placed on the harmonious, integration between the historic urban fabric and contemporary interventions." (UNESCO, 2011, p.9). When concerning the area of intervention of this paper, in the Brazilian city of Recife, this is a major issue on the city development. The fragmentation of the city tissue and the conflicts between socio-economic groups caused the public space to lose significance therefore the heritage is secondary, in detriment to the myriad of shopping malls and "controlled public spaces", falling in the category of "generic spaces" developed by Rem Koolhaas.

Europe, having a distinct cultural and political situation, due to long historical unions and separations between its countries, organized via the European Union an unique convention with the goal of preserve and give significance to landscape. The referred document has a unitary approach to guarantee the "safeguarding [...] the ideals and principles which are their common heritage" (COUNCIL OF EUROPE, 2008 p.8), that is why the ELC is the main source of policies regarding landscape for this paper.

The ELC is a document intended to be put in practice, in its general statements it says that one of the goals of the convention is “to establish and implement landscape policies aimed at landscape protection, management and planning through the adoption of the specific measures” (COUNCIL OF EUROPE, 2008, p.12).

7_ URBAN AGRICULTURE

The tool chosen to be the main element to guarantee the objective of this thesis is urban agriculture, as it was proven and researched it is an important way to enhance and regenerate the landscape. As Branduini (2015, p. 28) states that the "agricultural heritage is very rich and has a great potential for enhance landscape value and reconnect people to his local identity". This chapter focuses on the study of this phenomenon and its practice in landscape regeneration.

Our contemporary society lives a crisis when regarding the separation or urban and rural, the influence and the model of live of the city have expanded beyond its borders. The "urbanity" influences the rural world and creates a new "rurality", different but uncharacterized rural environment and culture. (FERREIRA 2009 apud KAYSER 1996). Urban Agriculture is a symbiotic
phenomenon, can be seen an expression of this rural and identification development. Urban agriculture is an immemorial aspect of human culture, since the first literary sources described a city, since ancient Greece has been documented in the border of these urban settlements, (BOUKHARAEVA at al. 2005, p. 416).

As a spread and ancient practise, necessary for human development is rather complex to define urban agriculture. Before anything deeper it is necessary to understand the concept of urban and rural on this study, what can be perceived as rural and urban. The line between both is more and more blurred. In the article "Definition of Urban Agriculture" by COST TD 1106 Action Urban Agriculture Europe, analyses the contrast that must exist to separate the agriculture which receives the prefix "urban" from its "normal" use, the rural one.

There are two main theoretical currents used by the academic community to define urban agriculture. The first one defines the practice based on a spatial aspect, being quite strict on its approach and relating the location with the characteristics of it. The second and more accepted in the research sources define urban agriculture on its relationship with the city; when the urban dynamics are the source of the characteristics, which turns the agricultural activity within the urban area (area of influence) a distinct element from its rural counterpart, not only the spatial location.

In the work of Santandreu & Lovo (2007, p.5) of the Ministry of development of Brazil defines urban agriculture as a multi dimensional concept, which includes agricultural activities (production, harvest and transformation) and livestock (small, medium animals and aquaculture) focused in self consumption, bartering or commercial purposes that are practised in the urban or peri-urban tissue or in areas under a influence of the city dynamics and environment. It has the characteristic of intensive agriculture and favours short cycle growth.

"We define Urban Agriculture as spanning all actors, communities, activities, places and economies that focus on biobased production, in a spatial context that, according to local opinions and standards, is perceived as 'urban'. Urban Agriculture takes place in intra-urban and peri-urban areas."

(COST Action Urban Agriculture Europe, 2013 p.1)

A similar approach, but more related to the perception of the urban environment is adopted by the COST Action Urban Agriculture Europe that stated at the Declaration of Barcelona of 2013.
In the world many communities live in areas completely out of the recommended living standards, socially excluded, lacking means of life, and a positive environment. UA supplies some of these needs. As showed, it is a widespread and is an encouraged practice in a variety of countries and by supra-national institutions. Its importance resides not only on the well know ecological aspect of the green spaces in urban environments and the aspect of food security. As Boukharaeva at al. (2005, p. 417-423) describes in her article there are four main functionalities and benefits of UA to the city environment that must be considered:

a- Food Security
b- Well Being, Therapy and Identity
c- Transmission of Culture

7_1 Urban Agriculture Typologies

"Because agricultural production in the urban realm tends to be strongly context related (to local markets, citizens, urban spaces, historical traditions, cultural heritage and so on) [...] is characterized by a broad variety of types. These types offer a lot of values for a smart, sustainable and inclusive growth and for job creation as well."

(COST Action Urban Agriculture Europe, 2013 p.1)

To better understand and analyse the cases of UA it was decided to follow an European methodology, facing the objective of this paper, the COST TD 11016 is the working group that developed the most generic, but yet deep classification and analysis of the phenomena. To define and organize the study of urban agriculture it is important to categorize it, as the previous excerpt shows, this practice varies a lot based on socio-economic, cultural and spatial aspects, hence the following components were chosen by the original authors to study UA cases.

- Where does urban agriculture take place? – A spatial component;
- What does urban agriculture provide? - A functional component;
- Where are the products from urban agriculture consumed? - A market-orientation component;
- What does urban agriculture come from ? -
  - Who performs urban agriculture?
  - Why do someone perform urban agriculture
  - Who are the beneficiaries of urban agriculture

The first head category, urban gardening, are non economic-oriented initiatives. Since the economy is not the focus of this first head category, the other aspects like integration, communal life, and family traditions are
a main element on the formation of these initiatives.. (PÖLLING 2015, p.7)

Urban Farming considers the economic-oriented initiatives, farming activities that adapt themselves to the urban environment, changing its actors, stakeholders and markets to a city oriented production, differing from the rural agriculture that produces to the market in general, treating their product as a commodity. As said before, the third and last main category comprises of the farms installed on the urban environment with a non-urban orientation, keeping the rural logic of production, their production is oriented to the external market, while the local nearby markets are not their focus.

7_2 Brazil Urban Agriculture Scene

In the country, urban agriculture is practiced in all the regions and it is considered an extremely diverse activity, but it is know to lack most of the legal prerogatives, as it was seen on the German case, and effective policies focused on its development and promotion. One element to be highlight is that most of the initiatives are located in the metropolitan areas of the state capitals. These cities are usually dense and hold between 270 thousand (Terezina) to 11 million (São Paulo), 11 of the capitals being the most relevant in terms of population, with 1 million inhabitants or more, and economy. In the following map is possible to see the location of the 11 main centres in which UA is practiced. (SANTANDREU & LOVO 2007, p.5-6)
As the urbanization process of Brazil forced many migrants from rural backgrounds in the last 30 years, many UA practitioners have a rural background or are recent migrants that move to the cities searching for a better life. This phenomenon of rural exodus has been studied by many sociologists and geographers in Brazil and it is an important element for urban studies in general.

Recife, the city where the design phase of the project will be developed follows the general trend of Brazil. However, in its case the urban growth was extremely intense, in the 70's already about 92,1% of the population of the city was urban and in the 80's it reached 100% (Ferreira 2009 apud MELO 1978), even though not 100% of the municipality is urban. Undeveloped land is almost completely within natural reserves, since the urban fabric of grew to its neighbouring cities, which caused conurbation, and formed the present metropolitan region. These undeveloped areas are where the rural-related resources are produced, areas in which urban agriculture is more present.

Urban agriculture as common, but not well distributed, since the city is extremely dense in its central area and having laws that prohibit the care and maintenance of
farm animals in the city, which bans certain kinds of UA initiatives. According to Ferreira (2009 p. 81) there are 360 hectares of agricultural land in Recife, these spaces are more or less hidden and ignored by the general population since the density and value of the land happens to be an element that caused most of the agricultural practises to be done in peri-urban areas and near natural sites, The previous map shows that outside of the main centre (the north-east and the south-east areas) UA is fairly well distributed (green dots). The neighbourhood of Várzea is highlighted. As described it is possible to notice that most initiatives are located on the wetlands of the rivers and on the west borders of the city, less dense and poorer.

A better perspective of the urban agricultural scene in Recife is further synthetized in the following table that was developed using the methodology developed by the COST Action of urban agriculture.

As a general overview it is possible to see that most of the initiatives are related to urban farming, which has a strong economic aspect, therefore UA in Recife is used as, at least, a partial source of income to those involved, therefore essential for those involved, but as it can be seen many of these have little support from the public sector and are fairly small, which probably is reflected by a low production.

Table 1 - UA initiatives in Recife

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Category</th>
<th>Typology</th>
<th>Main Function</th>
<th>Aim</th>
<th>Location</th>
<th>Scale</th>
<th>Promoters</th>
<th>Users</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iha do Zeca</td>
<td>Urban farming</td>
<td>local food farm</td>
<td>self consumption</td>
<td>intraurban</td>
<td>small</td>
<td>public administration</td>
<td>citizens</td>
<td>vegetables and phytoterapic plants</td>
<td></td>
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<tr>
<td>Cabanga – Police Station</td>
<td>Urban food gardening</td>
<td>community garden</td>
<td>self consumption</td>
<td>intraurban</td>
<td>small</td>
<td>public administration</td>
<td>citizens</td>
<td>vegetables</td>
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</tr>
<tr>
<td>Vale de Senhor dos Passos</td>
<td>Urban food gardening</td>
<td>community garden</td>
<td>self consumption</td>
<td>intraurban</td>
<td>small</td>
<td>public administration</td>
<td>farmers</td>
<td>vegetables</td>
<td></td>
</tr>
<tr>
<td>Sítio dos Pinhos</td>
<td>Urban food gardening</td>
<td>family garden</td>
<td>production for sale</td>
<td>intraurban</td>
<td>small</td>
<td>social purpose</td>
<td>farmers</td>
<td>vegetables and fruits</td>
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<td>Dois Imãs</td>
<td>Urban food gardening</td>
<td>community garden</td>
<td>production for sale</td>
<td>intraurban</td>
<td>small</td>
<td>public administration</td>
<td>farmers</td>
<td>vegetables</td>
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<tr>
<td>Sítio da Trindade Park</td>
<td>Urban farming</td>
<td>agricultural park</td>
<td>production for sale</td>
<td>intraurban</td>
<td>small</td>
<td>public administration</td>
<td>farmers</td>
<td>ornamental and phytoterapic plants</td>
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<tr>
<td>Bola na Rede</td>
<td>Urban food gardening</td>
<td>family garden</td>
<td>production for sale</td>
<td>intraurban</td>
<td>small</td>
<td>public administration and private operators</td>
<td>farmers</td>
<td>flowers and vegetables</td>
<td></td>
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<tr>
<td>Pau Ferro</td>
<td>Urban food gardening</td>
<td>family garden</td>
<td>production for sale</td>
<td>intraurban</td>
<td>small</td>
<td>citizens</td>
<td>citizens</td>
<td>vegetables</td>
<td></td>
</tr>
<tr>
<td>Community Centre CEMPO</td>
<td>Urban food gardening</td>
<td>squatter garden</td>
<td>social purpose</td>
<td>intraurban</td>
<td>medium</td>
<td>citizens</td>
<td>citizens</td>
<td>vegetables</td>
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<td>UFPE</td>
<td>Urban farming</td>
<td>educational garden</td>
<td>social purpose</td>
<td>intraurban</td>
<td>medium</td>
<td>public administration</td>
<td>civil servants</td>
<td>phytoterapic plants</td>
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<td>CEMPO</td>
<td>Urban food gardening</td>
<td>squatter garden</td>
<td>self consumption</td>
<td>transurban</td>
<td>small</td>
<td>civil association</td>
<td>citizens</td>
<td>vegetables and fish</td>
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<tr>
<td>NIDO Casa Fabiano de Cristo and School Senator Novas Filho</td>
<td>Urban food gardening</td>
<td>educational garden</td>
<td>social purpose</td>
<td>intraurban</td>
<td>small</td>
<td>civil association and public administration</td>
<td>disadvantaged people</td>
<td>vegetables and phytoterapic plants</td>
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<tr>
<td>CEPSA Educational Centre</td>
<td>Urban food gardening</td>
<td>community garden</td>
<td>self consumption</td>
<td>intraurban</td>
<td>small</td>
<td>public administration</td>
<td>citizens</td>
<td>vegetables</td>
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<tr>
<td>Hospital of Avenida Recife</td>
<td>Urban food gardening</td>
<td>local food farm</td>
<td>production for sale</td>
<td>intraurban</td>
<td>medium</td>
<td>farmers</td>
<td>farmers</td>
<td>vegetables</td>
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<tr>
<td>BR-101 Roadside</td>
<td>Urban food farming</td>
<td>local food farm</td>
<td>production for sale</td>
<td>intraurban</td>
<td>medium</td>
<td>farmers</td>
<td>farmers</td>
<td>vegetables</td>
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<tr>
<td>CSU Bolo Krause</td>
<td>Urban food gardening</td>
<td>community garden</td>
<td>self consumption</td>
<td>transurban</td>
<td>small</td>
<td>association and public administration</td>
<td>citizens</td>
<td>vegetables</td>
<td></td>
</tr>
<tr>
<td>Iha de Deus</td>
<td>Urban farming</td>
<td>local food farm</td>
<td>production for sale</td>
<td>intraurban</td>
<td>large</td>
<td>fisherman</td>
<td>fisherman</td>
<td>seafood</td>
<td></td>
</tr>
<tr>
<td>Via Bolo Miguel</td>
<td>Urban farming</td>
<td>local food farm</td>
<td>production for sale</td>
<td>transurban</td>
<td>large</td>
<td>fisherman</td>
<td>fisherman</td>
<td>seafood</td>
<td></td>
</tr>
<tr>
<td>Imbiriba/Axú</td>
<td>Urban food gardening</td>
<td>squatter garden</td>
<td>self consumption</td>
<td>intraurban</td>
<td>very small</td>
<td>citizens</td>
<td>citizens</td>
<td>vegetables</td>
<td></td>
</tr>
<tr>
<td>Casa Amarela</td>
<td>Urban food gardening</td>
<td>community garden</td>
<td>self consumption</td>
<td>intraurban</td>
<td>very small</td>
<td>civil association</td>
<td>citizens</td>
<td>vegetables</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author data from Ferreira 2009 and method by COST Action
The main issue however is not the amount of production, but the aspect of necessity, urban agriculture in Recife is not an activity related to leisure, it is an expression of the need of survival and make a living. This fact separates Europe from Brazil, where as a result of the high standards of living gardening and urban agriculture is not a job or a weekend scapade moment, but a way to make ends meet.

When analysing those who are involved in the activity of UA is where the reports of Ferreira (2009, p 30) notices that a large majority are former rural migrants or their decedents, in mentioned report it was concluded that the agricultural activities in Recife are not done for leisure, but as a result need allied with idle areas within the urban tissue. It the result of a socio-economic and spatial issues, caused by the urban expansion in the last century.

However the policies towards the promotion of urban agriculture are analysed, Recife faces a major issue. The municipal organ responsible for its promotion, the Secretariat of Economic Development, aims the economic and technological outcomes of the practice, over the social aspects. The city zoning also lacks any specific areas or spatial organization that promotes its practice on the core document of the city planning. (FERREIRA, 2009)

8_DESIGN METHODOLOGY

As presented in the first chapter of this thesis the UNESCO in 1972 produced an important document regarding the safekeeping and recognition of value of heritage and landscape. This first convention settled the basis for the European Landscape Convention that translates the discussions of the UN, which are general since they are valid for all the UN signatory members, and applies them to the European context, in a contextual way. Following the goals presented in the objectives, which uses urban agriculture for the landscape regeneration of Várzea, the implementation of the ELC.

“ARTICLE 6 – SPECIFIC MEASURES
A. Awareness-raising
Each Party undertakes to increase awareness among the civil society, private organisations, and public authorities of the value of landscapes, their role and changes to them.
B. Training and education
Each Party undertakes to promote […]
C. Identification and assessment
With the active participation of the interested parties, as stipulated in Article 5.c, and with a view to improving knowledge of its landscapes […]”
(COUNCIL OF EUROPE, 2008 p.12)
Article 6 of the convention specifies the actions necessary for its implementation, it is important to discuss the item A and B that deal with the awareness-raising among the civil society and the education of specialists, respectively, on the subject, these actions will be considered as non-specific, therefore will be considered as already implemented by the municipality. The item C deals with the issue of identification and assessment of landscapes, this analysis will be presented following the concepts of landscape and its multi-dimensional aspect as will be explained in the implementation annex further on this chapter.

It is important also to discuss that the general measure is more detailed in its implementation documents, that are developed in the appendix of the convention added in 2008, two documents are added presented together with the convention report, that describes a series of methods to safeguard and guarantee the quality of landscape within Europe. The most relevant one and used as a base to describe the methodology is the recommendation CM/Rec(2008)3.

To continue the discussion, it is rather relevant present how the policy is implemented. As the next quotation dictates, the implementation might be regulatory or voluntary. The regulatory uses the power of the state through regulations, in its various levels, and tends to be it is mandatory. Várzea already follows a city level regulation, as explained in the policies regarding the protection of landscape and heritage in Brazil.

The proposal of this thesis follows the voluntary path; it works on agreements between stakeholders and public authorities, since no existent regulations have been broken and the goal is not to set up new laws and legal requirements. The goal of the project is to improve the quality of the landscape and by consequence the life of those who are integrated to it.

“The means of implementing landscape policies or introducing the landscape dimension into sectorial policies may be either regulatory or voluntary. New methods of implementation could also be used [...]”

(COUNCIL OF EUROPE, 2008 p.55)

Considering that it is impossible to detach a landscape from the society it forms it is fundamental to include a public participation and that the contents of the design are clear and well presented to the public during the whole process. A project is composed not only of a design, when dealing with heritage, landscape and the public spaces the integration between designer and public must be clear. Involving public participation. Being an academic and conceptual work this paper will not consider the public participation on the process,
but this clear communication must always be present in a real enterprise.

The main goal of this paper is to achieve a good landscape quality for the design site; each design action must be assessed and appropriate to the site. With the policies and actions in mind the designer must consider its effect, and by technical means define the necessary features to achieve the results.

“§Part I- 1 [...] H. Achieve landscape quality objective, every planning action or project should comply with landscape quality objectives. It should in particular improve landscape quality [...]. The effects of projects, whatever their scale, on landscape should therefore be evaluated and rules and instruments corresponding to those effects defined. Each planning action or project should not only match, but also be appropriate to the features of the places. [...]”

(COUNCIL OF EUROPE, 2008 p.29)

The implementation considers the following aspects, but as presented in the previous chapters some are not responsibility of the landscape managers and designers, they must be considered in a territorial level or even in a national or state level. However these three last concepts deal with active actions towards the design of the landscape, while the protection and management are administrative, educational and awareness raising activities taken by the Article 6 of the convention.

To sum-up, the convention goes back to the initial paths of actions as the Council of Europe (2008, p. 45) explains that the design of a landscape project. These actions must be linked to the social requirements, values and concepts discussed presented before. The design must consider that the integration of the actions since they are applied in different areas. The conservation matter deals with tangible and intangible heritage.

“§Article 1: [...] d. “Landscape protection” means actions to conserve and maintain the significant or characteristic features of a landscape, justified by its heritage value derived from its natural configuration and/or from human activity;

e. “Landscape management” means action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes;

f. “Landscape planning” means strong forward-looking action to enhance, restore or create landscapes.”

(COUNCIL OF EUROPE, 2008 p.10)
The first action deals with the protection of existing elements of the landscape, from buildings to techniques and culture; therefore the tangible and intangible aspects of heritage, as discussed in the 1992 UNESCO convention in the case of Várzea the physical remnants of the agricultural past and the cultural aspects. The management area works on the future of the site while the last and most important one, the planning of the landscape and main focus of this project works with affirmative actions of enhancing, restoring and creating landscapes. This following diagram explains the horizontal process of implementing a design to a site following the ELC in a clear visual language.

Diagram 2 - Implementation Diagram of the ELC

In a diagrammatical way it is possible to comprehend how the ELC implements its concepts, first the general provisions are presented, those are actions to be implemented by the participant entities in their territories as a whole, the policies are then subdivided in three actions, that were already explained, the planning action that deals with actual projects that intervene in the landscape is finally divided in three aspects, actions that enhance or improve the existent qualities of the landscape; restore, to bring back elements that suffered the effects of time and need to be brought back and the creation of new landscapes following the principles of the ELC.

As a conclusion we can understand the levels of action of the convention and how the general concepts are then applied to a territory as a method. This implementation strategy is general enough to be applied in any country, the unique territorial and political configuration of Europe requires an unified policy towards landscape, however Brazil has a similar variation in culture and landscape in its gigantic territory that might benefit with a general policy to its heritage and landscape, that is what this thesis tries to corroborate. The overall principles of the ELC are the basis of the project. The next chapter will describe end show the design process of this project in Várzea.
10_AnaAnalysis

This topic is focused on the results of the analysis on the site o the urban and neighbourhood scale, in order to give base for a design.

A - Connection Analysis (Sheet 02)

Map 8 – Urban Scale Connection Analysis

Source: Author

In the urban scale the neighbourhood of Várzea is very well connected to the city centre and main business areas trough arterial transportation axis. Making the area easily accessible and the flow of products is facilitated by the presence of the highway.

Map 9 – Neighbourhood Connection Analysis

Source: Author

In the neighbourhood analysis it is possible to see that the area has many dead end roads, the presence of a very dense area and a large unoccupied part creates this effect. The lack of continuity on the transportation axis causes issues within the urban area, however the suburban nature of Várzea reduces the issues created by this street layout.
The urban agriculture scene in Recife is very typical to Brazil. Urban agriculture is not focused on education or leisure, but an economic response to the hardships of the third world.

Most of the production is on vegetables; their use is for self-consumption and sale in 86% of the initiatives, and almost half of the initiatives are categorized as farming, urban agriculture with commercial focus, showing this economic and social aspect of the practice. Therefore a different approach to urban agriculture can help to improve the practice.
This analysis focuses on mapping the different landscape units within the neighbourhood and focus design site. The goal is to understand the variation of landscapes, so the intervention considers the urban morphology, built element, topography, vegetation and road system. Nine different landscape units were found on site, varying from dense woodland to low-rise apartment building areas.

The intervention focus site is in the historic urban centre of Várzea, around this site it is possible to see the border between the urban centre and the agricultural lands, unused, this area is a boundary between these two diverse landscapes, however there is no connection or interaction between them.
The functional analysis works on the built spaces, verifying the functions developed on the area. Várzea historic centre has an agricultural past. Most of the area is residential, with considerable areas of industry and the overwhelming presence of the university and educational institutions. Indicating a large influx of students and workers, but also a large group of locals.

In the figure ground it is possible to see the large differences of density, the less dense are the southern areas of fields, the university campus on the east, while the urban centre is quite dense, but not achieving an unhealthy level.

This analysis provides data that an intervention on the site is possible, due to lack of conflict of functions, presence of local population and available land.
This mapping analysis analyses the morphology of the green spaces (vertical and horizontal), ownership (private and public) and their use (ornamental or agricultural). Most of the green spaces are private in Várzea and the public ones are not accessible. There are large agricultural areas, unused.

A site visit produced this analysis on the visual perception of the spaces. It was perceived that many streets have a negative corridor effect, due to the high fences and walls towards the outside areas; most of the natural and agricultural areas were not visible from the streets.
Ownership and accessibility of the lands analysis is essential for this project, it was noticed a clear division of ownership in the lands of Várzea. Public lands are almost half of the area, but they are not available for intervention nor have historical trances of agricultural practice. Leaving the design to focus on private lands. The following diagram sums up the situation.

Due to this fact, it was assumed that the unused agricultural lands could be donated to the municipality to develop a social and environmental project in exchange of some sort of valuable assets to the owners, like building rights. This premise was followed in order to continue the project.
There is a presence of large natural sites and their respective smells are rather positive. The issues are related with the presence of some bars, garbage and water pollution, which causes bad smells.

Some issues related to nuisance on industrial sites and transportation axis that seldom affects the residential areas directly. The river sounds are barely noticeable. The
I - Social Perception (Sheet 11)

The actors in a landscape assessment and intervention are key elements of its success. As the ELC states the understanding of society is vital to comprehend and design a landscape project that is sustainable and fulfils the needs and issues necessary. This analysis sheet is summed up in a timeline, based on the interviews and data archive analysis.

Considering the historical development of Várzea, in this topic the social perception of the site will be analysed through time, highlighting the positive and negative points. As a conclusion the graphic sheet 09, in annex, has a timeline in order to produce a graphic conclusion of the transformations of the social perception of the region through time.

“Historians say that Várzea was notable, not only by its proximity to Recife, but by the fertility of its soil, quality of the water and the speed that the vegetables grow; also the amount of fish, which certainly came from the Capibaribe (river)”

(BRENNAND, F. apud TV Matraca, 2003)

Since its occupation in 1535, the area enjoyed a high social value, since it was productive land, with river connection to the city of Recife and the harbour and was owned by rich and powerful families. As already mentioned by Cavalcanti (1998, p.146) in 1570 Várzea was mentioned as having a well organized plantation system and was productive. In 1612 there are records that the social and economic status of the site improved, a church was built and as mentioned before, the occupation was elevated to a parish around by the crown.

During the Dutch occupation and the subsequent wars Várzea was not occupied, there, the local population and the Portuguese authorities created a resistance bastion and the parish worked as the capital of the province, important generals and military leaders lived there between 1645 to 1654. One of the heroes of the resistance, D. Felipe Camarão, is buried at the main church; he died after war injuries during the battles. This facts show how relevant and socially accepted the site was, enjoying a considerable social and economic standards and value. (CAVALCANTI 1998, p. 145)

The 18th century was a period where the region of Várzea and the northeast of Brazil enjoyed its golden age; the production of sugar was at its peak. In 1746, as mentioned before by Costa (1981, p. 177) the neighbourhood was praised had a high social value, with the modernization and restoration of the churches and expressed by the granting of the dignities by the
emperor. At this time with the growth of Recife, the area became a holiday area for the high society, where they could enjoy the countryside pleasures and the crystalline waters of the river.

The social perception of the mentioned river Capibaribe, which cuts Várzea, is also a key element to be analysed. The fishery activity was very important since the early occupation of the area; an oral record recorded by TV Matraca (2003) with a local fisherman states “There was so much fish, I raised all my family with fish from Várzea”. However a following comment by the same fisherman shows how much the situation changed, “Now, there’s no such thing, the river is only garbage and sludge”. The social value of the river changed through time, before it was a connection artery, water and food supply, now an abandoned and polluted natural area.

The transformations of Várzea from the rural and bucolic to part of the urban tissue were gradual. In the end of the 19th century there were the land ownership changes, as Rodrigues (2015) explains and it was detailed before in this paper, this fact brought new actors to the scene, the Brennand family and modernization of the sugar plantations.

Another important punctual fact that confirms the social, political and economic relevance of Várzea at the early 20th century was the construction of the tramline, which connected the area directly to the city centre of Recife. Built originally in 1883, the line was modernized in 1914 to have electric trams (before they were powered by steam). This transportation system, as it can be seen in the map below shows that Várzea was the furthermost area connected directly to the city centre, confirming its importance in the urban scenario. Another oral record by TV Matraca (2003) states, “There was a car (tram) that used to bring the children of the richer employees, even the sons of the Brennand (family) used to come). This infrastructure, as mentioned before was dismantled only in the late 60’s with the implementation of the bus system.

The 20th century were the time where the social perception of Várzea stated to change negatively. The crises of 1929 and a severe draught resulted in an intense migration of workers and families from the countryside to the larger cities. The influx of migrants caused in an unplanned urban growth, fact the impacted negatively in the area, which had various unproductive plantations that were occupied and turned in to residential areas. The sugar industry however still remained strong due to economic policies.
"The transformation of the sugar agro-industry and cotton farming activities to a domestic market due to the loss of competitiveness in the international scenario damaged the expansion of the industries located in Recife. Added to this is the fact that, after 1930, North-eastern production Cotton did not receive state protection did the sugar [...] at the first Vargas (President) government"
(LUCENA JUNIOR 2010, p.4 apud ABREU E LIMA, 2004 p.35).

In the years of 1950’s and 60’s had a very negative impact, in Recife, many of the migrants moved to the favelas of Recife, called mocambos at the time, the policies of forcefully removing the poor populations from the city centre caused an unplanned growth in Várzea, since the economic policies protecting the sugar industry had failed. At this time Várzea was integrated to the urban tissue and lost its value as a rural agricultural area. But, the loss of the morphological aspects did not mean a loss on the cultural side, the rural migrants kept their identity and knowledge, areas around Várzea were cultivated until recent years.

"Várzea changed, because now it is in the city. I remember when the Engenho do Meio (a plantation) was sold to the university campus. Many teachers said that it was an absurd to locate a campus in the outskirts of the city"
BRENNAND, F. apud TV Matraca, 2003)

The construction of the campus of the university UFPE helped to improve the social perception of the site, as mentioned the campus was built in the late 50’s to early 60’s. Together with a growth on the urban infrastructure, that created also an organized and planned occupation. The industries also flourished, and a relevant industrial production resulted in a growth of employment and living conditions of the population of Várzea.

The 80’s and 90’s were a period where Várzea had a social change; the hip-hop culture emerged according to TV Matraca (2003) explains in the 80’s the DJ Turbo brough rap and break dance culture to the neighbourhood, in the 90’s the rap came and became part of the scene.

One important fact was the economic hardships of the end of the dictatorial period of Brazil caused a high demand of cheap houses for the middle class. Since Várzea as close enough to the main city areas and well connected, the area was developed. Many low-rise buildings were constructed, residential blocks for the crescent middle class; this changed the face of
many areas of the neighbourhood. Middle class and poor communities coexist.

“Várzea is made by avenues, where the richer people live. Moving away from them you will see the face of Várzea. That it is a poor neighbourhood, but rich in culture”

(LUIZ apud TV Matraca, 2003)

One of the key cultural and social spots of Várzea that needs to be commented is the Pinto Dâmaso (sometimes spelled Damasio) square. As it can be seen in the historical analysis, the square was the tram stop and a garden. In the early 2000’s the square was re-qualified, as TV Matraca (2003) mentions, the square is where the cultural life of the neighbourhood takes place, it is near the church piazza and is part of the ancient urban traces. It is important to state that its not only the physical qualities of the square that it makes it important socially, but the immaterial value of the area has value.

At the present time the neighbourhood has a character of diversity, it has the contrast of the poor unplanned communities, organized urban expansion, ancient villas and leftover agricultural land, the university campus and the industrial buildings; all in the peri-urban tissue of the outskirts of Recife

To sum up, the following quotation can be used as a general contextual phrase for the design area, “Várzea has a lot of great things, but people don’t know” (TV Matraca, 2003). The various cultural groups that show the variety of Várzea, from the popular dances and musical groups that came with the rural migrants to the high arts of the cultural centres owned by the Brennand family along with the student parties and events of the university. Thus forming a cultural melting pot in a discreet neighbourhood where positive and negative aspects coexist and lots of potential is left unused.

J - SWOT Analysis (Sheet 13)

As a conclusion a SWOT type analysis, verifying the strengths, weaknesses, threats and opportunities for the project was conducted. Each category was assessed in the fields of culture, space, environment, society, institutions and economics; this data was used to support the design strategy, which comprises the following analysis.
The historical analysis was divided in two groups, a diachronic analysis of 1865, 1924 and 1970 and 1997, in order to document the development of the region through time. For that maps from the city archives were used.

A second analysis considered the current situation and highlighting the different ages of each element on site, a synchronic analysis. Although the site has a long history most of its traces are not present, just on the urban layout and some buildings, like the church, are from before of 1865. Most of the current urban elements are from before 1970 and 1997.
11_Proposal

Following the goals of this thesis the proposal is the conclusion of all the previous work, following the design goals and using the studied principles. The design must transmit the values of the site’s heritage trough the use of urban agriculture.

A - Design Strategy

The main objective is to improve the quality landscape of quality of the site, using the concepts of the European landscape convention trough the use of urban agriculture.

the initial goal is to use urban agriculture as a tool for the regeneration of the urban landscape of Várzea. this activity working together with tangible and intangible heritage elements can help to enhance the situation in this neighbourhood. the project will be based on the ELC (European Landscape Convention) and the various Unesco conventions, in addition to this the studies done by the COST group - Urban Agriculture Europe.

To achieve this goal, three general actions are proposed by the ELC. Protection, which aims in safekeeping existing heritage; enhancement, to turn evident important hidden elements and give them value; creation, proposal of new spaces on the landscape and restoration; to bring back deteriorated heritage. All these actions can be performed in the tangible and intangible heritage.
Map 19 – Design Strategy

Source: Author
B - Actors and Actions

For a landscape regeneration project to succeed it is utterly important to consider the public participation. This strategy focuses on the actions and actors participation, which group develops which activity for the implementation of the strategy.

Map 19 – Design Strategy

Source: Author
The design initiates in a neighbourhood level, considering the integration between the intervention, the heritage and the urban context. The river is also a major element, due to its strong cultural and natural value.

The design on the intervention regenerates the tangible heritage and utilizes its traces to compose the new design, bringing the city towards the agriculture and vice versa.
D – Proposal

The agricultural park is divided in three areas, the research centre with an experimental farm, allotment gardens and the public park. All of which incorporates elements with historical agricultural values, educating and preserving traditions, spaces and practices.
E – Management

The last part that the European Landscape Convention works is the management, the plans for the future of the project, in this case is proposed an expansion of the concepts and principles to the whole neighbourhood and the city of Recife, in order to manage the city’s landscape in a holistic and structured way, preserving its values, enhancing its capacities and creating valuable spaces. Improving the life of the community as a whole.
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