Contributions to land use planning of rural areas

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Introduction

In general practices and research, land use planning has been a topic commonly focused on urban planning experiences, theory and debate. At the same time, rural areas have been highlighted by their role in providing food and other supplies to the cities, absorbing waste and giving space for nature protection (Acselrad, 1999), demanding attention to their land use planning. In its turn, environmental planning has gained space and more common practices and instruments, being able to directly affect land uses in rural areas.

Worldwide, integrating environmental planning issues into land use planning has been discussed and reinforced during the last decades (UNECE, 2008). This can be linked to the idea of defining land uses and distributing social activities in accordance with environmental restrictions and potentials of a region, as suggested by the ecological planning theorists and followers (McHarg, 1992; Bailey, 2002; Yeang, 2009), or even to the idea of not treating the environment (and other sectorial topics) as a separate theme in planning, which is a practice related to spatial planning (Federal Office For Building And Regional Planning, 2001; Alpkokin, 2012). In this sense, what has been done in relation to rural areas?

In this paper, two different contexts were selected to give inputs to this debate: Brazil and the Netherlands. This option was made due to the fact that, according to Santos Junior and Montandon (2011), spatial planning practices in Brazil could be improved, notably when it comes to land use planning of rural areas, while the Netherlands has a long standing tradition in spatial planning (Miller; de Roo, 1996; OECD, 2008; Alpkokin, 2012) in which environmental planning issues have been integrated, and also in dealing with rural areas (van der Valk, 2002). From these statements, a main question emerged: which aspects, from positive to negative, can be drawn from such different contexts to improve the debate regarding land use planning of rural areas?

Objectives and methods

Having this question designed, it was possible to establish the main objective of this paper: to select aspects valuable to the discussion on rural land use planning with basis on the highlight of positive and negative aspects from the Brazilian and the Dutch practices considering land use, spatial and environmental perspectives of planning and instruments. With that, we expect to contribute to the debate around this topic.

This paper was constructed with basis on literature review in papers, institutional publications and pieces of legislation from both countries, providing knowledge regarding the Brazilian and the Dutch spatial and environmental planning systems and instruments.

Results

Brazilian planning system and instruments

Presenting three levels of government (the federal, the states and the municipalities), but probably because of the territorial extension and complexity, Brazil does not present a tradition in planning at the national scale, but there are practices at the regional, and mainly, at the municipal level (Souza, 2003). The last one is the most active in defining and making decisions on land uses, while the states have the opportunity to strategically guide this, mainly through environmental planning instruments. The role of the municipalities in giving environmental licences and permits has also increased.

In relation to instruments, the municipal master plan can be indicated as the spatial planning instrument of most common practice in Brazil, even being mandatory to less of half of the countries' municipalities, according to the Law n° 10.257 of 2001. The master plan is formalized as a municipal law and it should take the whole municipal territory into account. However, rural areas are frequently not included in the plan or, when included, they are slightly covered with generic land use indications.

Master plans should work together with other instruments from different sectorial policies, such as urban zoning, macro-zoning, environmental zoning, environmental impact assessment, licences and permits and water resources plan. Some of them are exclusively applicable to urban areas, such as the urban zoning, while others also comprise rural areas.

Linked to the master plan, the macro-zoning is prepared and it establishes the guidelines for land uses in rural areas with no biding powers. It points areas for food production, wood production and mining activities, among others (Brasília, 2001). This instrument is not formally linked to any Policy and not even regulated by any law.

In its turn, the environmental zoning, set as instrument of environmental and urban policies and regulated by Decree n° 4.297 of 2002 as Ecologic-Economic Zoning (EEZ), is an instrument of spatial planning, to be followed by plans, projects and activities, establishing patterns of environmental protection to ensure the quality of the water resources and soil, and conservation of biodiversity, promoting sustainable development and good quality of life.

There are different practices of Ecologic-Economic Zonings (EEZ), some of them covering municipal territories, others covering groups of municipalities and others prepared by the states, covering their entire areas. Binding power is given to some of them, but not always. In general, environmental zonings have the capacity of establishing wider guidelines to be assumed and detailed by the municipal plans, but this is not a common practice yet. Environmental zonings are able to work together with master plans, environmental impact assessments of projects, giving permits and also with water resources plans.

The water resources plan is able to interfere in spatial planning from the water perspective and guide definitions of land uses especially to rural areas. It should be prepared at three territorial scales: the watersheds, the states and the national level. Nevertheless, until now, besides the National plan, only some states and watersheds have their plans prepared, and there are still gaps and difficulties in implementing watershed plans, commonly seen as an extremely technical piece of planning with low applicability (Peres, 2012), and there is still lack of integration of this plan with the master plans.

Regarding environmental impact assessments to projects, there is regulation and common practice, inclusive linked to guidelines given by environmental zonings but weakly linked to master plans, macro-zonings and water resources plans. Strategic impact assessments of plans and policies are still not formally regulated in Brazil, being not commonly found in practice and not presenting relation to land use planning of rural areas.

Dutch planning system and instruments

The Netherlands presents a sophisticated system of spatial planning with a long standing tradition, where practice is usually ahead legislation, although planning scholars and practitioners consider the procedures delayed and complex (van der Valk, 2002) and the system has walked in a changing direction, to a more decentralized practice.

As instruments, there are the structural visions (*structuurvisies*), mandatorily prepared by the three levels of government and the land use plans (*bestemmingsplanen*), elaborated at the local level.

The structural visions are indicative plans and they are able to integrate planning topics concerning not only spatial issues, but also water management, environmental policy, economy, etc. In this sense, it is difficult to find specific environmental plans, once this is also content of the structural visions.

The three layers of government have their role in the spatial planning system. In this sense, there is the National Spatial Structure, and the provinces translate the national guidelines into the provincial structural plans, indicating, for instance, which areas should serve for agricultural activities, nature or recreation.

The municipalities prepare their local structural vision and land use plans considering the entire area of their jurisdiction. Once the provincial governments have been more empowered in relation to defining land uses in rural areas, the role the municipality plays, in this sense, is to turn these guidelines into law when preparing or updating land use plans. It is valuable to say that there are municipalities working on their first structural visions, only presenting land use plans.

The local land use plan is the most concrete plan of the system. Initially mandatory for the non-built up areas, nowadays it is an obligation to have land use plans covering the entire municipal territory. The land use plans have binding powers and linked to them, there are the licenses and building permits, which are given by the municipality in accordance with the definitions established by these plans.

Environmental impact assessments to specific projects or details of plans are made while structural visions and land use plans are prepared, directly influencing their guidelines on land uses, and also in the moment of giving permits.

In relation to water, it is not only a topic of environmental planning, dealing with water quality, but there is also a sector responsible for water management. The three levels of government have their role in water management and there are also the water boards, responsible for preparing management plans to their regional watersheds and the water board from the central government, responsible for managing the main rivers. When provincial and municipal spatial plans area prepared, these authorities and their plans are consulted.

On the other hand, even being regulated in the Netherlands, strategic impact assessments are not applied to the structural visions, once they are considered from a highly strategic level, while land use plans of urban and rural areas are the ones to go through an SEA, which means, environmental impact assessments in the Netherlands have direct and indirect influence in land use planning of rural areas.

Highlights from both contexts

First of all, it is valuable to stress at least one similarity between both contexts, related to the fact that the municipal level is responsible for the preparation of spatial and land use plans with concrete impacts on land uses in rural areas, also being able to give permits and licenses.

Looking at the Brazilian context, it is possible to highlight as negative, the fact that the national level is not active in spatial planning and there are areas left unplanned, once the regional plans are still under construction and municipal plans are not mandatory to all the municipalities.

On the other hand, the plans prepared by the different levels of government have different origins and focuses, some from the environmental perspective (the Ecologic-Economic Zoning and the water resources plans) and others under the urban policy influence (master plans and macro-zoning), which opens the opportunity to integrate different perspectives in the planning process. But, in practice, there is still lack of integration between the levels and plans.

This suggests that the regional plans should be mandatorily prepared by all the states and watersheds, and they should definitely be taken into account by the municipal plans. But it is valuable to keep in mind that, besides having a broader view of linked territories, regional plans work in a more strategic scale and details must be given by the municipal level, even if, sometimes the municipality has knowledge and definitions to deal with conflicts that go against the general guidelines given by the regional perspective.

The macro-zoning emerges as a positive option of plan to be applied to rural areas, not being legally binding and not enforcing the *status quo,* which is commonly a critic built over binding and strict plans (Juergensmeyer; Robert, 2003). But, it still needs to be regulated and potentially turned into an obligation to all municipalities.

Other negative aspects of the Brazilian context is that, there is still absence of regulation for strategic environmental assessment, while impact assessments of projects and the giving of permits are usually disconnected from spatial and land use plans.

From the Dutch practices, we can firstly highlight that the Netherlands present spatial plans with influence on rural areas prepared by the three levels of government. In fact, this is a positive aspect once it guarantees that the whole national territory is covered by plans, and that a broader and integrative view of the territory makes part of the land use definitions at the local level. On the other hand, people from the practice complain that it is difficult to consult and attend the different expectations from the 3 levels of government, which makes the process of planning complex and delayed, which can be pointed as a negative aspect.

Another positive point see in this context is that the spatial plans (structural visions) have already been influenced by environmental planning issues and regulations, integrating environmental perspective while giving guidelines on land uses and also thinking about space

for nature, water and protection of different environmental resources, aspects and values, with special attention to those found in rural areas.

A third aspect to be positively pointed out is the fact that, once the water boards approve the provincial and municipal spatial plans, this reflects in a practical influence from the water perspective in the definition of land uses.

The fourth positive aspect highlighted from the Dutch experience, is the influence from the environmental perspective that the environmental impact assessment has brought to the plans, either when impact assessments of projects foreseen in the plans are prepared, either when strategic assessments are applied to local land use plans.

Conclusion

The paper presented the main characteristics of the Brazilian and the Dutch contexts in relation to land use, spatial and environmental planning of rural areas, pointing some positive and negative aspects of each. Despite of being judged as a slow process, the Dutch planning system presented more positive aspects, which does not avoid finding positive aspects in the Brazilian context.

In general lines, the main aspects to be considered from these practices and to be more in-depth discussed and applied (or not) in land use planning of rural areas are:

- the option for **binding plans** for rural areas. Is it worth?
- the relevance of considering the **regional perspective** as strategic guidelines to the local definitions, once it is able to understand the area to be planned and the connections it presents with other areas, which is valuable while thinking rural areas, mainly from the environmental perspective;
- the possibility of **integrating the environmental topics**, legislation and perspective already in more strategic levels of planning, to use this theme as basis to design guidelines for land uses in rural areas, including the water perspective;
- the use of **environmental assessments** of projects foreseen in the plans and the necessity to link **licenses and permits** with these plans, mainly when it comes to licenses given by the municipalities;
- the importance of putting the **different levels of planning** in contact, not only consulting each other during the plan preparation process, but also making sure that one will take the other's plans into account, but being careful not to make this a very bureaucratic and delayed process of planning;
- although regional and environmental perspectives are definitely important to decisions on land uses of rural areas, both practices points that, by the end, **municipalities** and their approximation with the local contexts and knowledge (should) **have a fundamental role** in the definition of land uses and management of activities in rural areas;
- **strategic impact assessment** shall play an important role in land use planning of rural areas, not only being able to integrate the different tiers of planning, but also to ensure the integration of environmental aspects this process.

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