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Integrating peri-urban small-scale farmers regional planning: A case study of the Oued el Maleh valley outside of Casablanca.

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1. Context and objectives

Traditionally urban and rural worlds are considered separately and their respective developments, even linked through macroeconomic constraints, are understood independently of each other. Urban spaces offer many advantages regarding job opportunities, transport, cultural offers, housing whereas the rural world is considered as less developed with harder life conditions. But the cities' inconveniences (pollution, noises, lack of space, high rent), the rural exodus, the need of expansion of the city and the attraction of the peri-urban areas lead to a rapid urbanization of peri-urban spaces. Most of the time peri-urban urbanization does not take into account the impacts that it could have on the surrounding peri-urban spaces and particularly on peri-urban agriculture. But the actual trend is to bring the two spheres closer together by highlighting the possible synergies which could link them together to optimize their development.

Peri-urban spaces and particularly peri-urban agriculture could play an interesting multifunctional role for both spaces if the competition for resources and spaces are clarified. This last point is the main source of conflict as urban activities are usually considered as more valuable than agricultural activities in peri-urban areas. It is difficult to assess the value of peri-urban areas and peri-urban agricultural areas and only an interdisciplinary approach can hope to do this. Urban planners should understand farmers and their needs and vice versa.

The objective of this dissertation is to improve understanding through the study of four peri-urban aspects: planning system, farm viability, public policies and management of urban-rural relationships. The study of those four topics should help us to better understand the main dynamics and interactions which will influence the urbanization of peri-urban agriculture in one way or another. It should help us as well to assess possible synergies to better integrate farmers into urban development planning. This dissertation and the developed method should be a decision support document for planners but also for local decision-makers who have to plan and organize agricultural peri-urban territories and who need to know: "which urban development could create which urbanization of the agriculture?"

The Oued el Maleh valley situated in the periphery of Casablanca, Morocco was selected to study the direct relations between urbanization and peri-urban farmers. This agricultural valley is shaped by the river and its vegetable production done by small-scale mixed-farming family farms. The proximity of Casablanca and the beauty of the landscape make the valley attractive for urban dwellers. A relation is created between farmers who are selling their products during the week-ends and the urban visitors. But the rapid urbanization of Casablanca and Mohammedia, increasing land prices, wish of the younger generation to give up farming, lack of support of small-scale farmers and lack of valorization of agricultural activities mean that the valley will probably change in the near future. This area is interesting

to look at the possible dynamics that could happen within the valley and understand what place agriculture will have depending on the kind of urban development which takes place.

The framework of the dissertation results of the previous analysis concerning peri-urban dynamics and of the main question regarding an agricultural peri-urban territory: What will its future look like? The interactions between the different peri-urban dynamics and the possible future will be approached both at the farm and at the territory level to have a global approach of the peri-urban agricultural issues. At the farm level, the farm viability will be approached through the possible livelihood strategies for the small-scale farmers. At the territory level, the spatial configuration of land use, the relationship between farming and urban systems, the main functions of agriculture and the way such functions are fulfilled are the main aspects considered to approach the possible futures of the peri-urban territory. The urban dynamics and the political issues which include the planning system issues are considered as impacts on the peri-urban territory which will force the different dynamics to evolve in an unknown direction.

2. The methods

The method used to understand the urban and agricultural dynamics within the valley is prospective scenarios which do not predict the future but give plausible and coherent representations of what the future could look like. The aim is not to look only at the desirable area but to look at the different developmental possibilities and at the conditions leading to such results. The creation of the scenario comprises five main steps widely reported in the context of explorative scenarios which are the following:

1. Decision focus: Identify the focal issue or decision: What are the central concerns and key issues of the users of the scenarios?

2. Key factors: Identify the driving forces that are likely to have the most important influences on these central concerns of the future.

3. Pre-determined elements and uncertainties: Which of these driving forces seem pre-determined and inevitable and which are the factors which seems likely to change the direction of the scenarios?

4. Selecting the scenario logics (or scenario plots): Ranking of the drivers by their importance and their uncertainty and identifying two or three critical factors of the central themes of the scenarios.

5. Fleshing out. Elaborating the basic scenario logics into full-fledged scenarios. This is often done in the form of narratives that present a plausible sequence of events.”

Two other steps are added in the dissertation. One to look at the strategic visions which could be developed according to the created prospective scenarios and the last step is the definition of strategic levers which will highly influence the development of the peri-urban areas. This step does not appear to be a prospective approach anymore but corresponds more to a normative approach and a back-casting approach.

These scenarios are not based on quantitative variables but on a qualitative approach to look at what influenced the development of peri-urban spaces and particularly peri-urban agriculture. A simple model for a simulation of farm systems and territory results is also created to have a better approach of peri-urban agriculture within the scenarios. The method used is more a technical, social and economic simulation realized on Excel. The base of the model is a model farm where the different farm variables can be changed and lead to different farm and territory results. The relations between variables are linear.

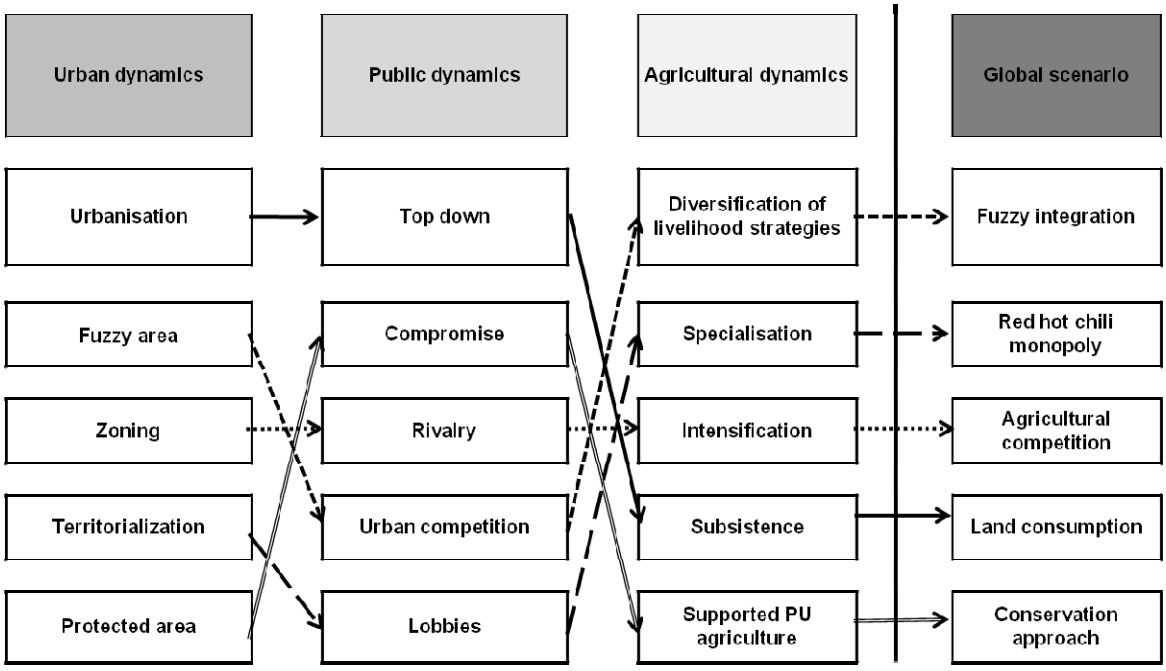
Before the writing of scenarios, a structure for the main variables was needed and a system which enables us to enlarge the "possible horizons" to really approach all the possible futures. For the main uncertain dynamics (3 in our case: public dynamics, rural dynamics and urban dynamics) which have been chosen, a set of questions is elaborated for which five different answers are developed to cover different possible eventualities. Extreme cases are not considered as the objective is to stay within realistic scenarios. Thereafter, different plausible and coherent combinations of the answers are given and serve as a basis for the narrative approach of the scenarios. In our case, five combinations will be proposed.

3. The results

The results of the variable combination are presented in the figure 1 with the five different scenarios for each dynamics and the main scenarios resulting of the combinations of sub-scenarios. For each scenario, farm scale and territory scale situations are approached and described.

The "fuzzy integration" scenario is mainly dealing with an urbanization spread over the territory without a strong land regulation and farmers are surviving mostly by doing many different on and off-farm activities. The "red hot chili monopoly" scenario presents a territory where the land regulation defined clearly the type of activity for each commune. Where agriculture is protected, the production of red hot chili is supported by a powerful cooperative. In the "agricultural competition" scenario some surfaces mainly irrigated are protected for agriculture and to improve the production, farmers are individually intensifying their vegetable production. In the "land consumption" scenario, urbanization is not controlled and agriculture activities are disappearing of the territory. The "conservation approach" scenario presents the situation where the territory is protected for agriculture which is supported by local actors but farmers have to improve their practices to better fulfill urban expectations.

Figure 1: The combinations into five scenarios



These scenarios enable us to better understand the impacts of urbanization on agriculture and to determine which kind of urbanization will lead to which type of urbanized agriculture. They enable a better comprehension of peri-urban farm systems and their priorities which do not always coincide with urban expectations

4. Discussion and conclusion

The scenario and the model show the importance of looking at the economic viability of farms as a way to really convince decision-makers that agriculture is not only a subsistence sector. Agriculture seems always to be in difficulties in peri-urban areas because it seems not competitive with other activities. Externalities are clearly an advantage of agriculture which could be helpful in peri-urban areas but the non marketable aspects of many of them make the externalities irrelevant for many decision-makers but also for farmers who do not see directly the financial impacts. The question of the externalities should be clearly approached at the farm level as financial aspects to define how farmers could best manage them and in a way that is profitable for their farm. Those aspects should be integrated in extension programs to support farming practices under the changing peri-urban conditions. The externalities or the multifunctional aspects of farming are concepts which could be used to define indicators to enhance synergies between urban and rural worlds but this should not be the main aspect under consideration when integrating agriculture into the planning system.

Land regulation and recognition of peri-urban agriculture importance by the city are two central variables which have a strong influence on peri-urban farm development. The recognition of peri-urban agriculture by the urban side and the acknowledgement of the farmers regarding their role, their status and their situation is a fundamental variable within the peri-urban areas. Putting farming in the heart of the system does not mean that it is more important for a peri-urban territory than other activities but it helps to define the role that agriculture could play in peri-urban areas.

For the integration of agriculture into planning system and urban-rural dynamics, there is not an optimal solution but different solutions which should be adapted to each territory according to decisions made by the local stakeholders. Real cooperation among different actors is necessary to have the kind of development of peri-urban territories which could satisfy the majority.

To conclude, we consider that research should be concentrated on solutions to improve synergies and decrease the competition between farmers and cities. The best way is to enhance the interdisciplinary approach which should be done at a territorial scale to define the best projects that should be developed to give to peri-urban territories their own identity. This will lead to adapted extension programs and network creation for the farmers which will in return cooperate with the city to meet their needs and their activities.