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## Revisiting urban planning to integrate multifunctional agriculture policies by the means of landscape metrics and indices: a methodological proposal

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Agriculture is currently playing a role in Western European public policy and planning by the means of land use and land cover local regulations. City's sprawl has blended up (gobbled up) cultivated areas into urbanization changing agriculture practices and landscapes. The urban fringe intensive agriculture that used to be an important land use is strongly diminishing, other related functions take over. New concerns arise: landscape, health or food security and sovereignty, are some of the reasons legitimating protection of agricultural zones in urban planning. Agriculture's multifunctionality is credited with providing tangible benefits on ecological and economical territorial dynamics, both at local and regional level. This paper seeks to examine how local policy can associate agriculture and city planning in a singular territorial project which would be no longer urban nor rural but a resilient model integrating the ecological and socio-economic realms.

For this purpose, all forms of agriculture are not equivalents. "Ecologized" agriculture practices, owing to their production rules, have additional advantages to comply with urban requirements from agriculture on the edge. How these wished forms of agriculture can be characterized and measured, in order to support public action? One possible analysis is to confront political project of a specific territory to empirical experience by an operational research looking to improving knowledge of elements prevailing over correct application of public action. By extension, we question the tools and instruments that could be developed to take into account agricultural stakes. We need further to construct a spatial definition of ecologized agriculture forms by the means of measurable landscape indicators who could allow then monitoring survey of agri-urban projects implementation. Based on a critical lecture of scientific literature, we propose a methodology founded on a triple approach of agricultural issue: i) farming spaces characterization (landscape structures); ii) socio-economic analysis of farming activities (landscape functions); and iii) policy setting of agri-urban projects by both farmers and urban actors (landscape values). The goal of this paper is to draw up an empirical and theoretical framework looking forward a methodology to integrate multifunctional agriculture management in urban planning as a tool for policy makers and stakeholders.

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