

An analytical framework to link governance, agricultural production and ecosystem services

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Background

Agricultural landscapes dominate much of Europe and other regions. Agro-ecosystems provide food, fodder, bioenergy, and livestock products as mainly marketable services (e.g. Swinton et al., 2007), but also non-marketed regulating, supporting/habitat and cultural services, e.g. clean water, soil fertility, landscape aesthetics and recreation (e.g. Swinton et al., 2006; Robertson et al., 2014). The provision of these ecosystem services depends largely on the activities of the farmers in a region (Firbank, L. et al., 2013; Koschke, L. et al., 2013). Concerns about the long term sustainability of agricultural systems (Tilman et al., 2002) and the provision of related ecosystem services demand for governance approaches, which allow integrating agricultural activities of farmers and the frame conditions of farming.

Research question

We aim to develop an analytical framework with specific regard to agricultural activities, derive types of governance approaches according to their different types of pathway from the 'input' (governance) to the 'output' (ES) via a detailed description of agricultural activities and their frame conditions and apply this to several governance approaches within three European case study regions, here we present two examples of more collaborative approaches.

Materials & Methods

1. The framework is based on the agricultural location theory (Kuhlmann 2015), extended by governance and ecosystem services.
2. We analyzed governance approaches in the case studies 'Berg en Dal' (NL), 'Spree-forest' (DE), 'Jauerling-Wachau' (AT) by visits, interviews, workshops, literature.
3. We reclassified the governance approaches from the classical types: hierarchical (e.g. Natura 2000), market-based (e.g. AECM), collaborative (e.g. AECM group contracts, water management advisory board), into types of governance which impact agriculture and ES, representing typical pathways through the framework.

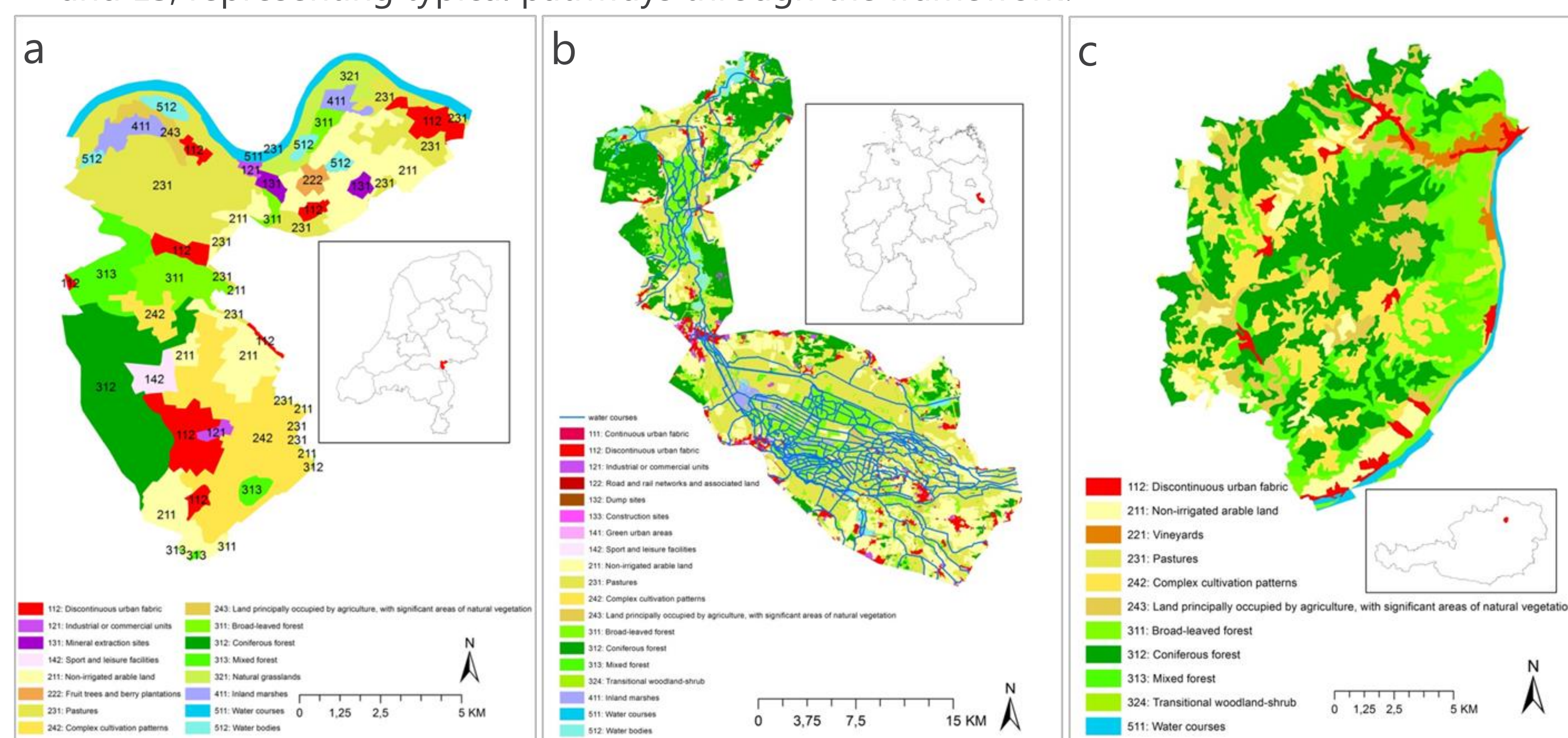


Figure 1: The three case studies 'Berg en Dal', NL (a), 'Spree-forest', DE (b), 'Jauerling-Wachau', AT (c)

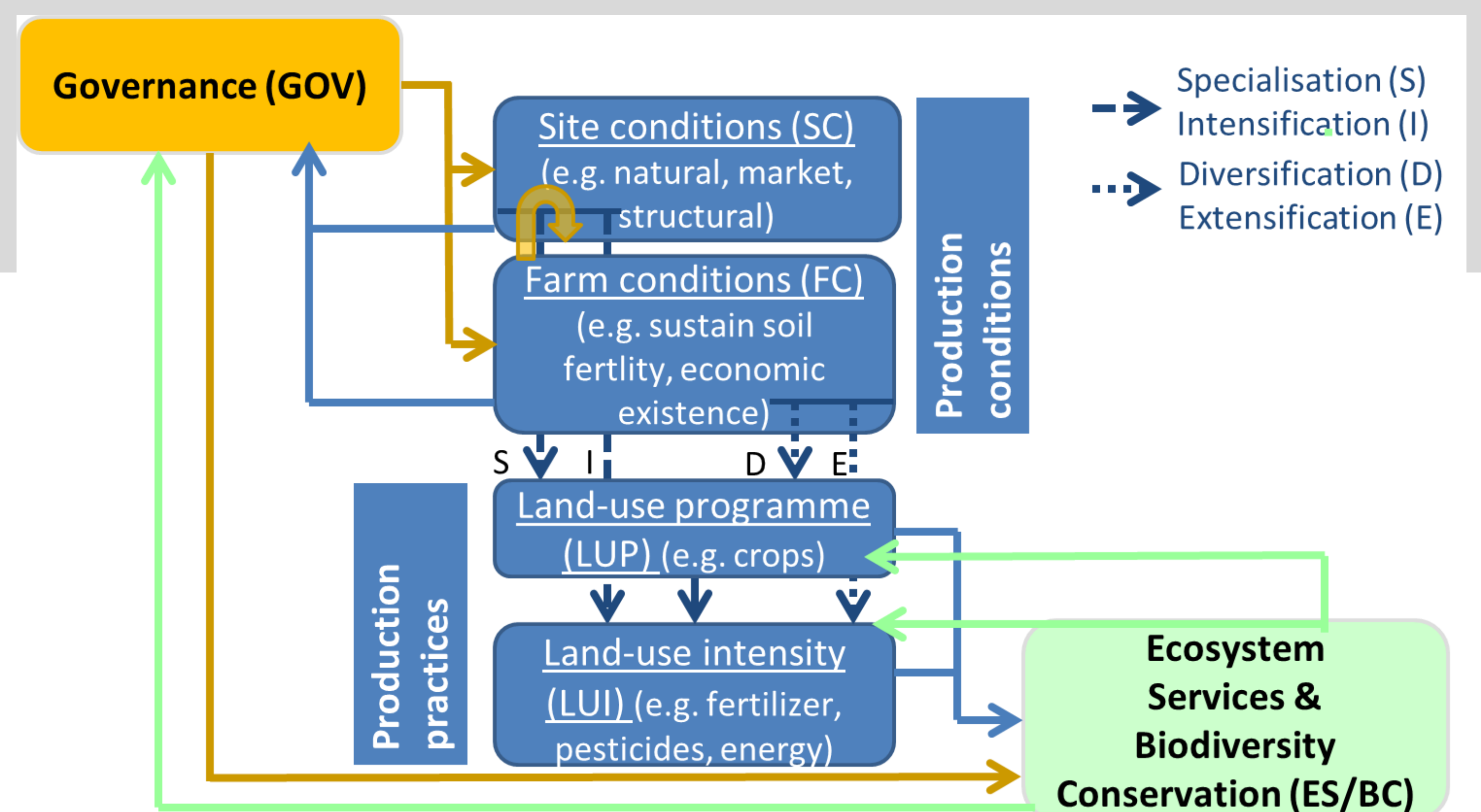
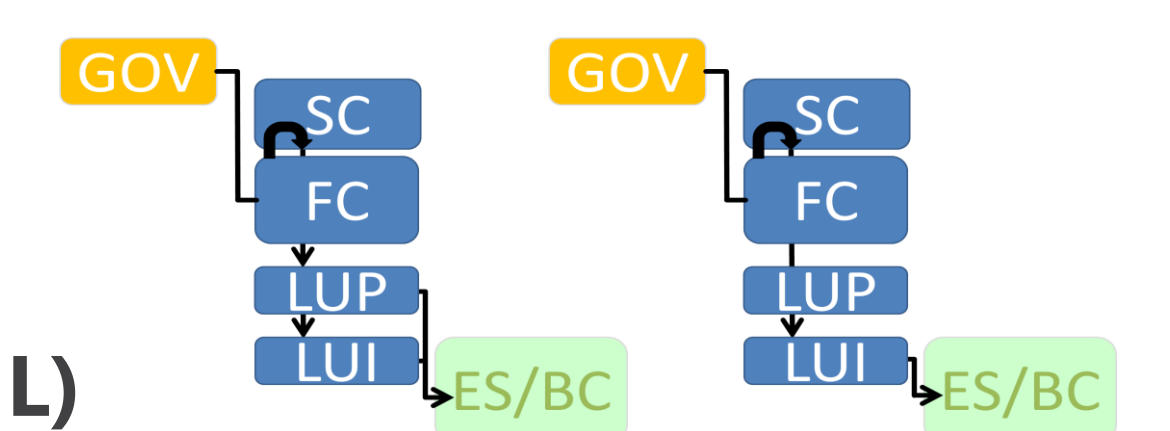


Figure 2: An analytical framework to link governance, agricultural production & Ecosystem Services

Results

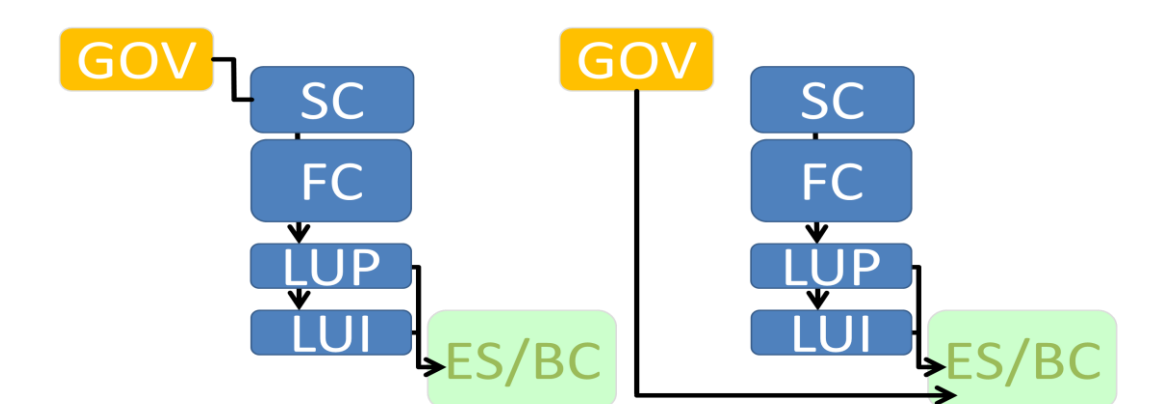
The Collectief Rivierenland ('Berg en Dal', NL)

- CAP 2014-2020: cooperation of individual farmers and group contracts are encouraged, EU (2013: 1305/2013, article 35)
- ANLb' (RVO 2018): protect biodiversity & water resources, Certified agricultural cooperatives (2017: 40 in The Netherlands) apply for AECM payments for six years in target areas
- contributions of farmers to the cooperative aims → integrate cooperative aims into farm conditions → generate payments → function as a market site condition



The Water management advisory board ('Spree-forest', DE)

- traditional commitment established parallel to introducing the water regulation system (meetings twice a year)
- agree on a water level, construction measures & water courses maintenance
- influence site conditions for agriculture (workability, water retention (dry years), water drainage (wet years))
- enable balanced cultural landscape use / interests / provision of ES: agricultural products, fish, wood, C-sequestration (peats), (semi)-natural habitats, regional identification, recreation, tourism



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Interested? Get more information here: www.cp3-project.eu

Civil-public-private-partnerships (cp³): Collaborative governance approaches for policy innovation to enhance biodiversity and ecosystem services delivery in agricultural landscapes

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