



# Ecosystem services and land use in a periurban context: multi-level analysis in the case of the Ile-de-France Region



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## Thesis committee:

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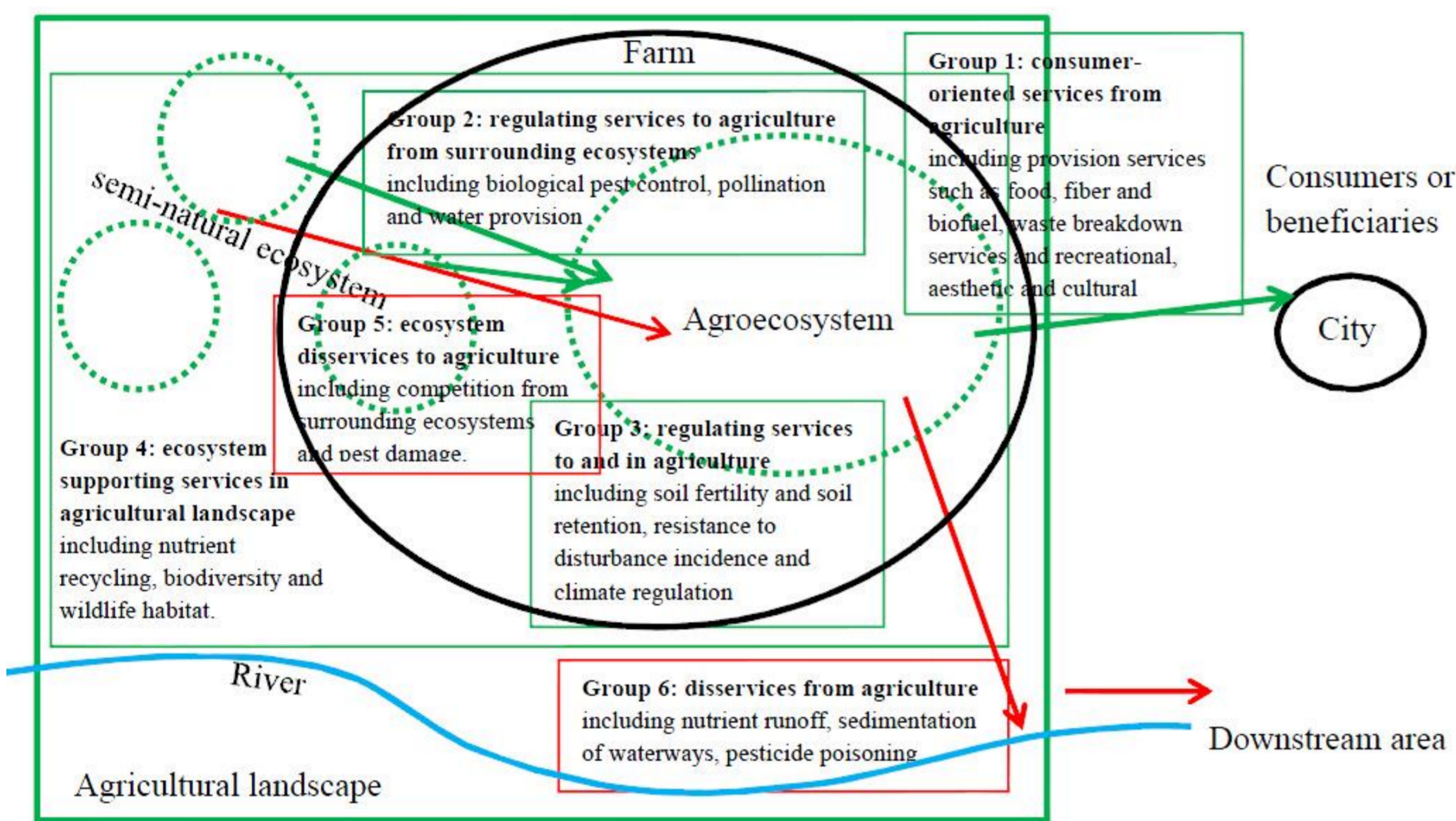
Maia David: economist, INRA UMR Economie Publique

## Context & objectives:

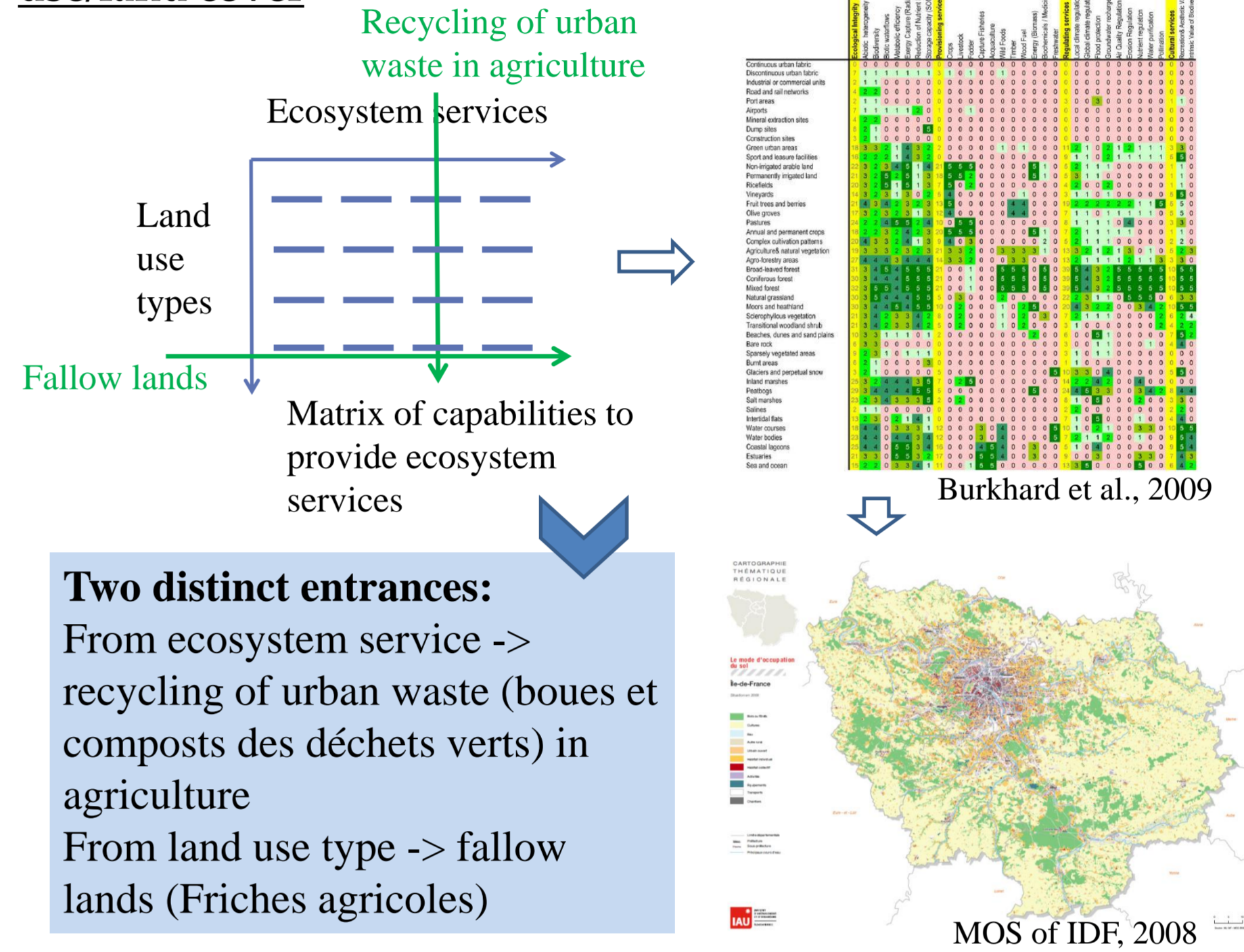
Under the challenge to meet the growing demands from society for both food and environmental benefits, two concepts have been used and well developed to look for alternative strategies:

### Multifunctionality & Ecosystem service

Based on a comparative review of the two concepts, a general framework about the ecosystem services/disservices in a periurban agricultural landscape has been proposed:



## To link ecosystem services to land characteristics and land use/land cover



**Two distinct entrances:**  
 From ecosystem service -> recycling of urban waste (boues et composts des déchets verts) in agriculture  
 From land use type -> fallow lands (Friches agricoles)

### Problematique of scale

#### Biophysical scale

Watershed  
Landscape  
Ecosystem

#### Scale of management

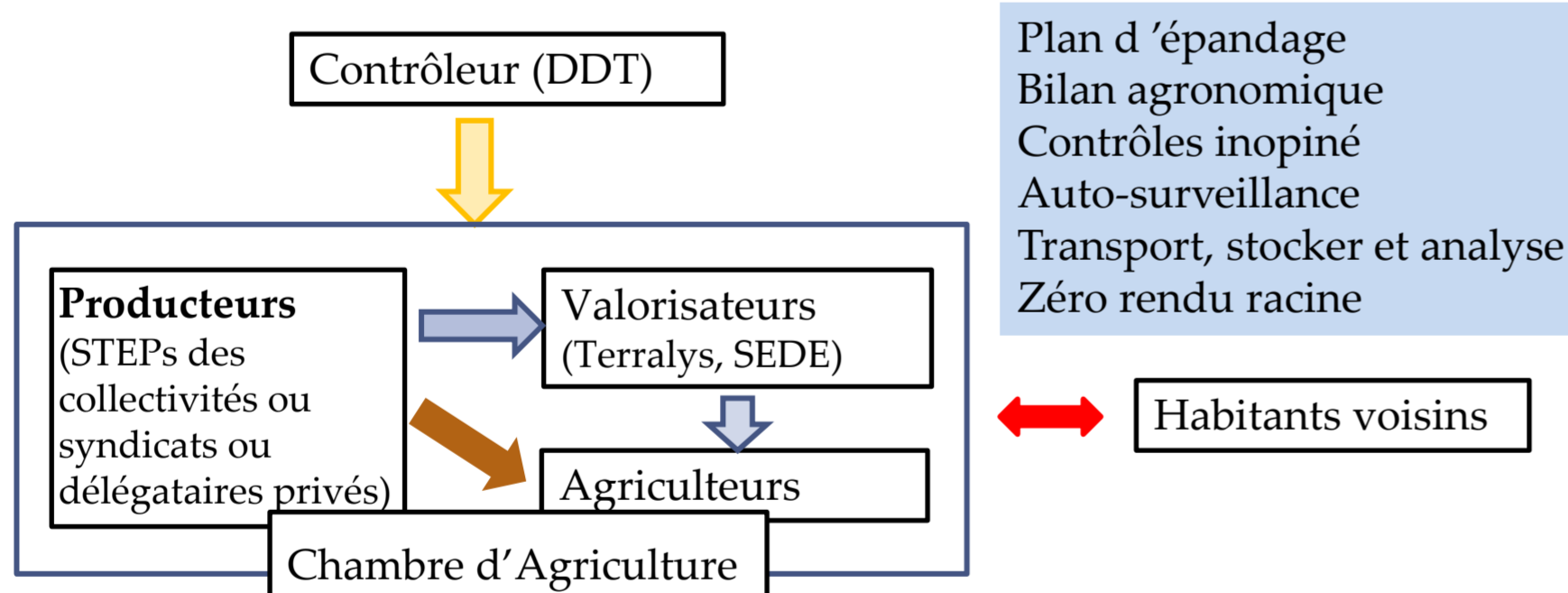
Petite Région agricole  
Farm  
Ilot de RPG

#### Institutional scale

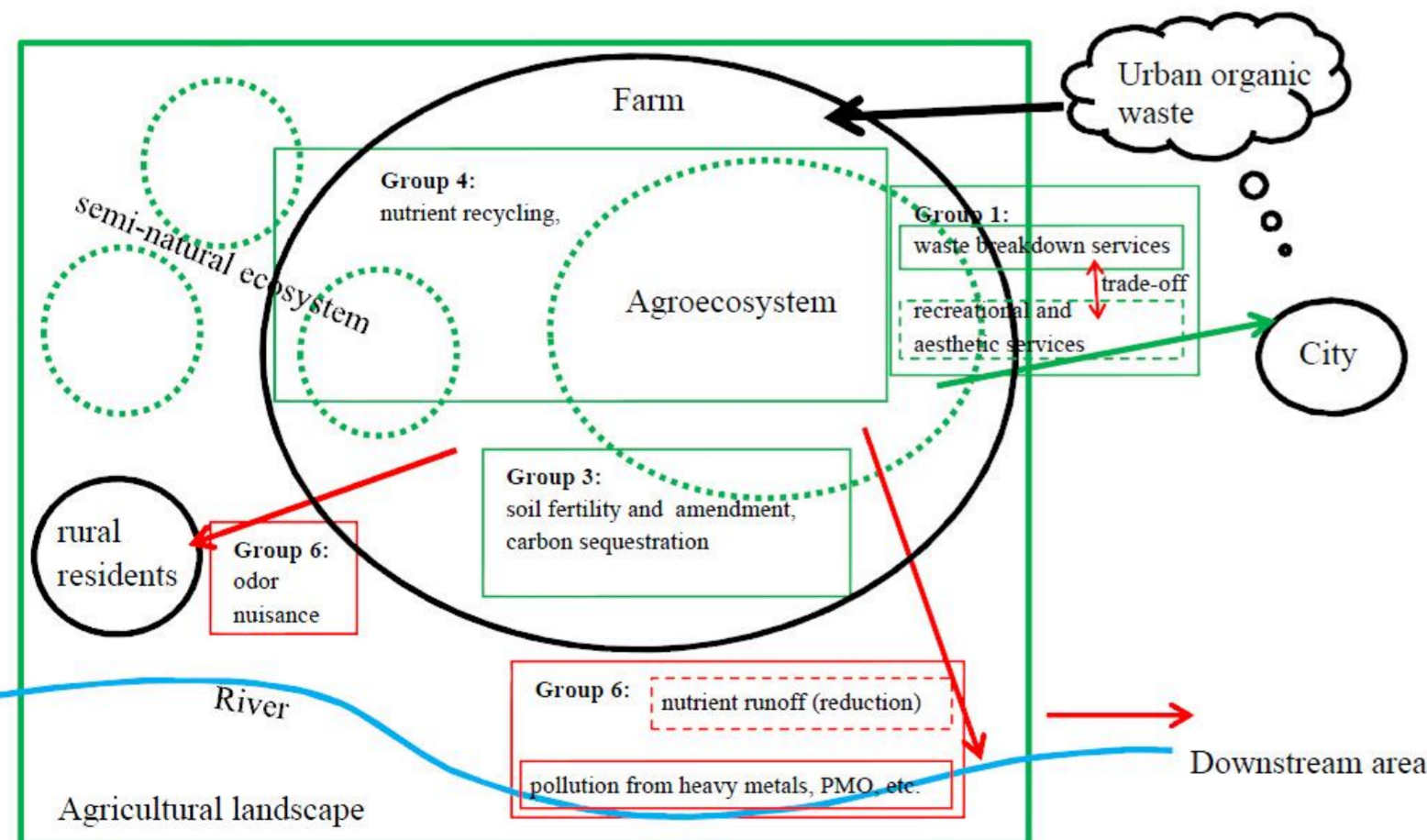
Région  
Département  
Commune

## Study on recycling of urban waste in agriculture:

**General understanding** has been achieved on the sector of recycling urban waste in agriculture through interviews.



**At local level,** investigations will be carried out mainly on three differentiated water treatment stations (SMAROV, Mureaux and Plaisir) and two areas (la Plaine de Versailles and le Plateau de Saclay):



**Field investigations** (financed by BASC and will be carried out by one M2 student during 6 months, under co-supervision of Caroline Petit):

- Difference between la Plaine de Versailles and le Plateau de Saclay in terms of activities for recycling urban waste in agriculture (spreading of sewage sludge or compost?);
- Knowledge about spreading fields and processes;
- Interviews with farmers, residents, communities, etc.;
- Identification of ecosystem services/disservices based on the above framework;
- Contrast between the status of waste (sewage sludge) and status of product (compost)?

## Study on fallow lands:

### Regional level analysis

based on MOS of IAF to identify distribution of fallow lands i.e. abandoned farm (friches agricoles) and set-aside land (jachères).

**Local level analysis** will be carried out in two areas:



Area 1°: a bend of Seine including three communities: Vernouillet, Triel sur Seine and Carrière sous Poissy

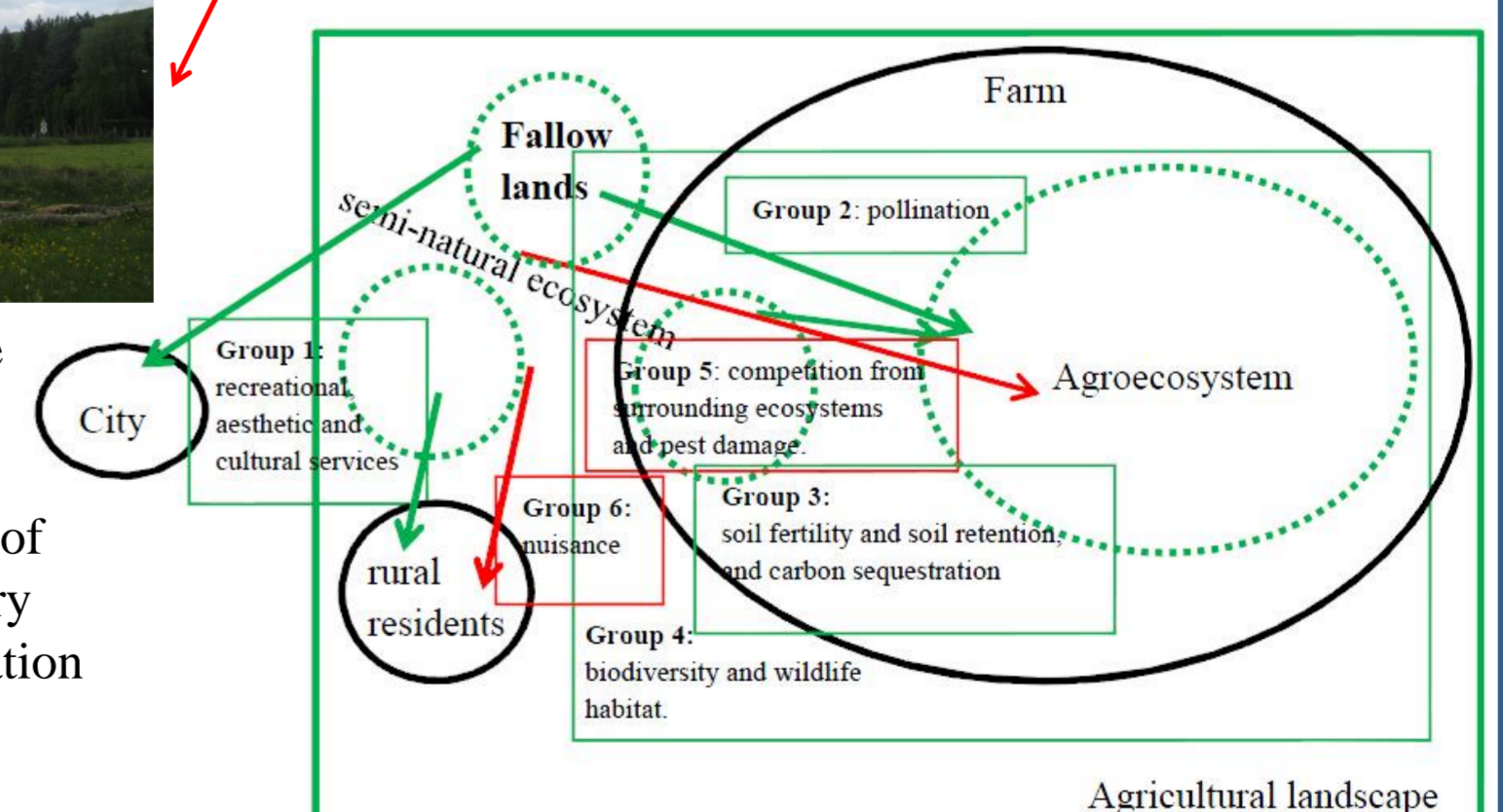


Area 2°: PNR de la Haute Vallée de Chevreuse (Convention among communities at the level of PNR; an existing inventory of fallow lands; consideration for ecosystem services)



Main distribution of fallow lands in Ile-de-France (Culture -> rural vacant land\*)

\* « espaces vacants ruraux », category No.14 of MOS, IAU



**Field investigations** (financed by BASC and will be carried out by seven M2 students in Paris X during 3 months, under co-supervision of Caroline Petit):

- Verifying distribution of fallow lands with existing inventories and field visits;
- 4 or 5 types of questionnaires for farmers, residents, communities, PNR and associations;
- Identification of ecosystem services/disservices based on the above framework;
- Role of urbanization (POS, PLU)?
- Integration into ecological networks (Trame verte et bleue)?