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Self-feeding city: the case of Rennes, France Presenting the urban context and a project of extended urban fruit trees

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HAL Authorization

8th AESOP conference food planning
Coventry, 14-15 November 2017

Self-feeding city: the case of Rennes, France

Presenting the urban context and a project of extended urban fruit trees

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OUEST


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ESO
UMR 6590
Espaces & Sociétés



Urbanisation and farmland

The archipelago model, an original situation



Rennes Metropole

400 000
inhabitants

37 communes

A fastly increasing
population

Rennes, self-feeding city

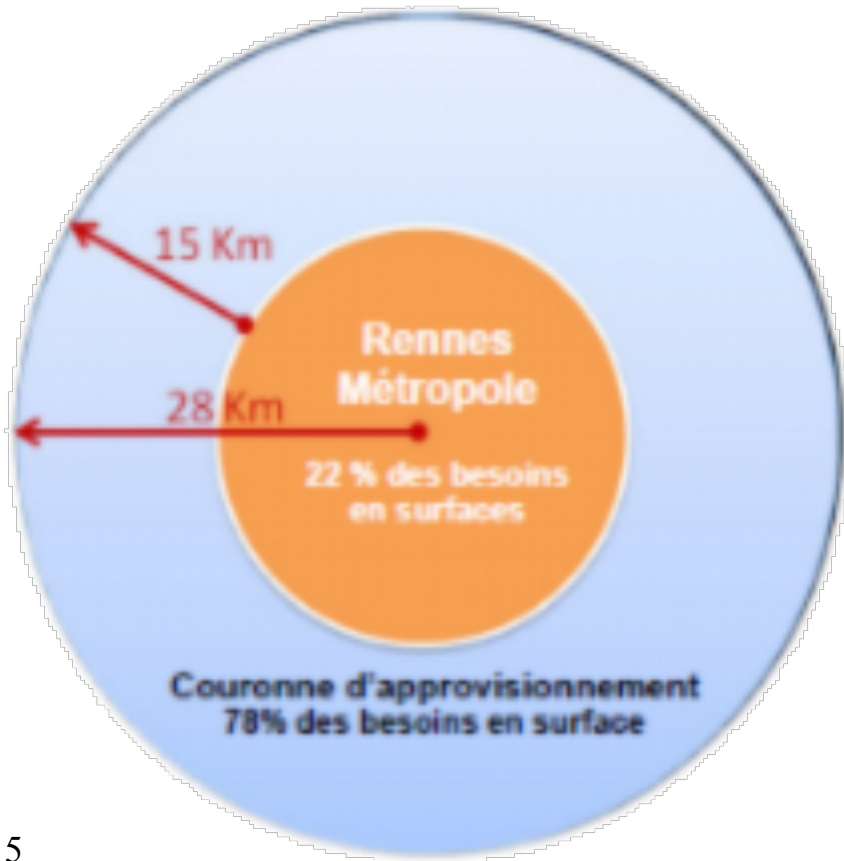
- 2011-2013 : Eating locally, a prospective for Rennes 2020
- An exercise for 2 promotions of Master students «Sustainable agriculture and territorial development», Rennes
- Which area needed to feed the Metropole ?
- What to produce, what to eat ?
- 2 scénarios
 - **Tendencial**: no changes in production and food habits
 - **Autonomy**: optimising productions, diets and wastes for local autonomy

1 - Gross results

(warning : calculation as if the surrounding belt was empty)

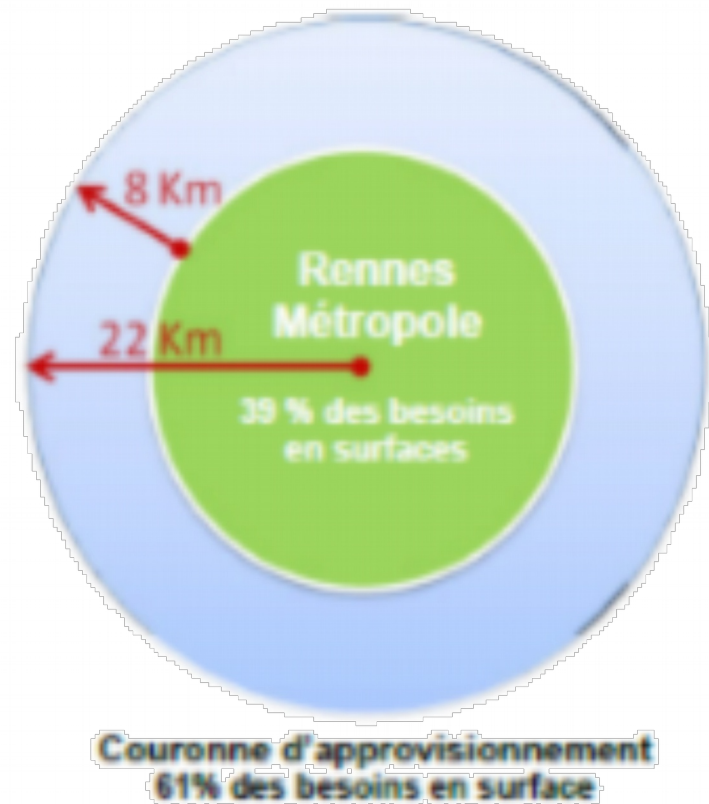
Scénario tendanciel

Surface consommée
par habitant : 0,30 ha



Scénario d'autonomie

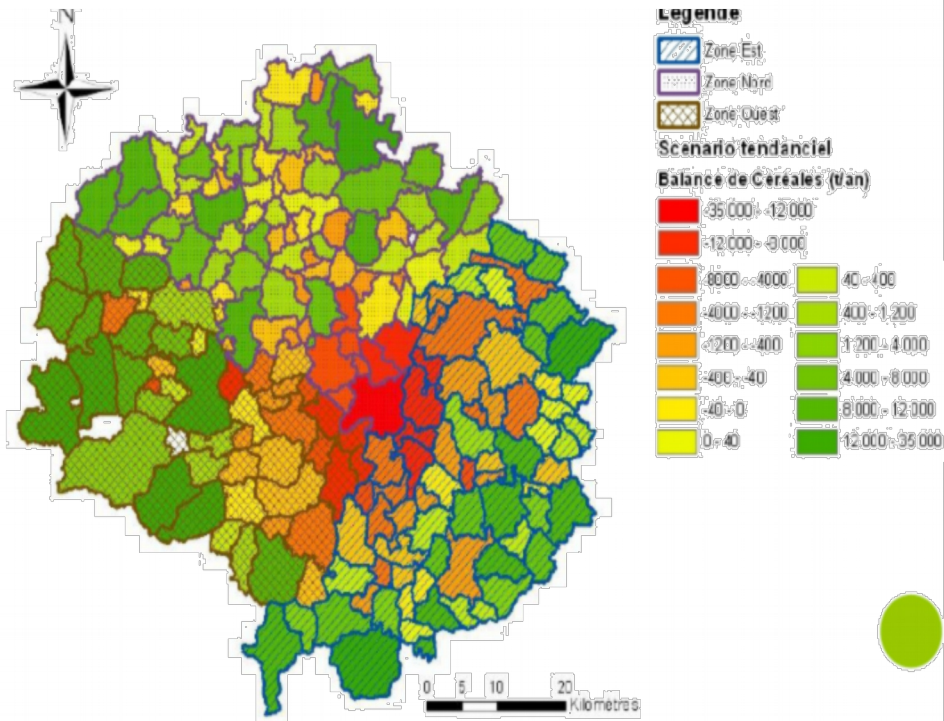
Surface consommée
par habitant : 0,18 ha



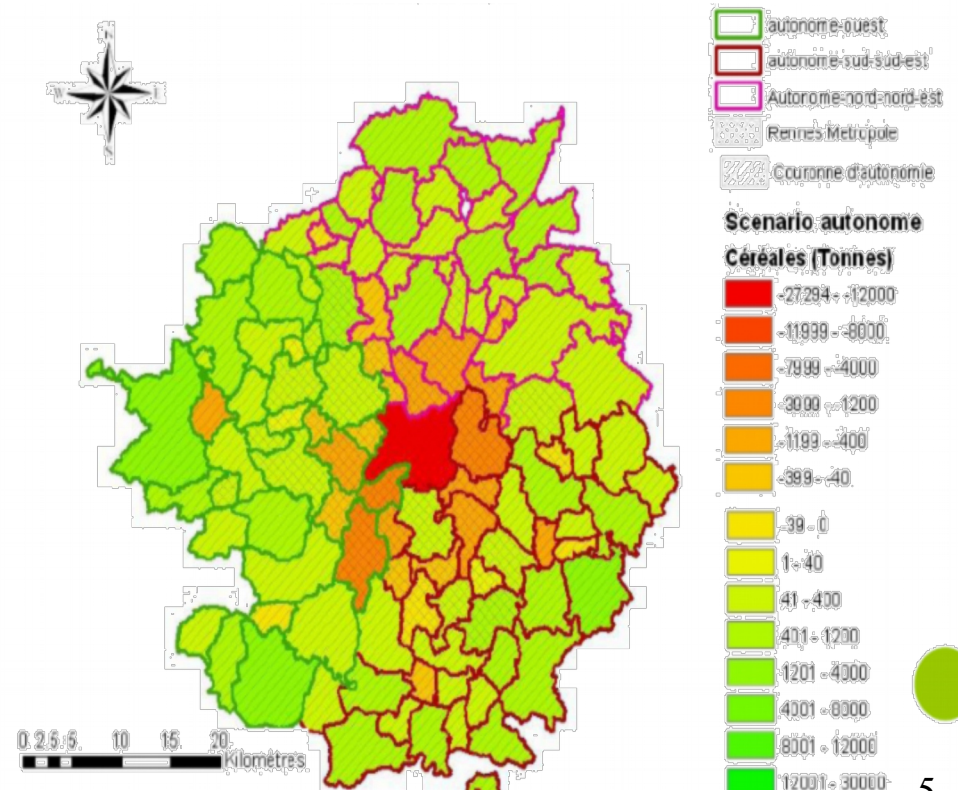
2 – Net results

Area of autonomy, including surrounding inhabitants

Tendencial scenario



Scenario of autonomy

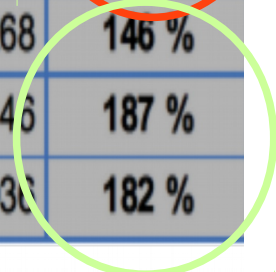
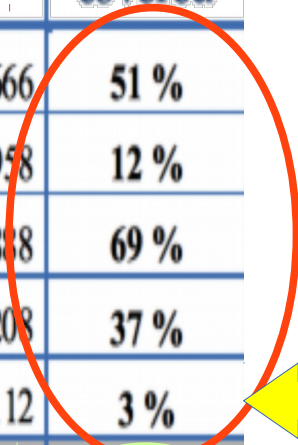


14/11/15

In red communes lacking food / In green communes able to provide food

Focus of the results: lack of fruits (and all vegetables) in Rennes local productions

<i>Actual situation of the local production</i>	<i>Net weight of the food produced (kg)</i>	<i>Weight of food consumed (kg/an/habitant)</i>	<i>Nb of inhabitants fed</i>	<i>% of the needs of Rennes Metropole covered</i>
Cereals	18986833,3	88,0	215666	51 %
Vegetal fats	288265,4	5,5	51958	12 %
Vegetables	14393270,9	49,3	291808	69 %
Potatoes	3345395,9	21,3	157208	37 %
Fruits	826213,5	58,5	14112	3 %
Meat	26 843 491	44	614 268	146 %
Eggs	4 386 695	6	786 146	187 %
Dairy	68 236 917	89	764 930	182 %

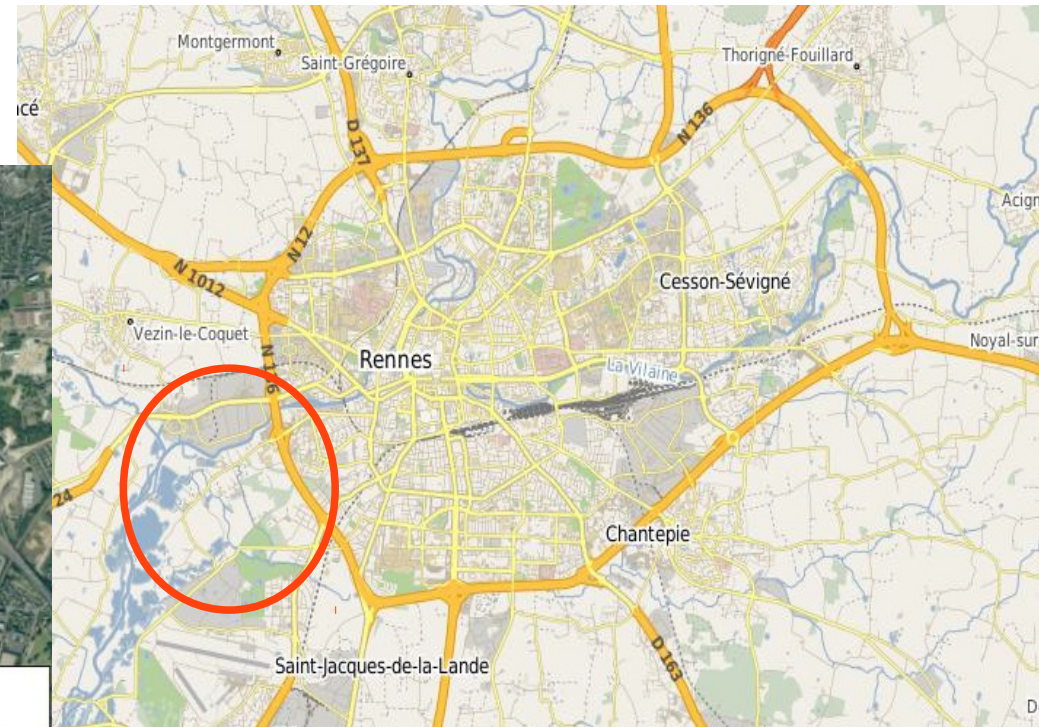


Focus

Fruit trees project in La Prevalaye area

450 ha of farmland next to the city

80 % of public land property

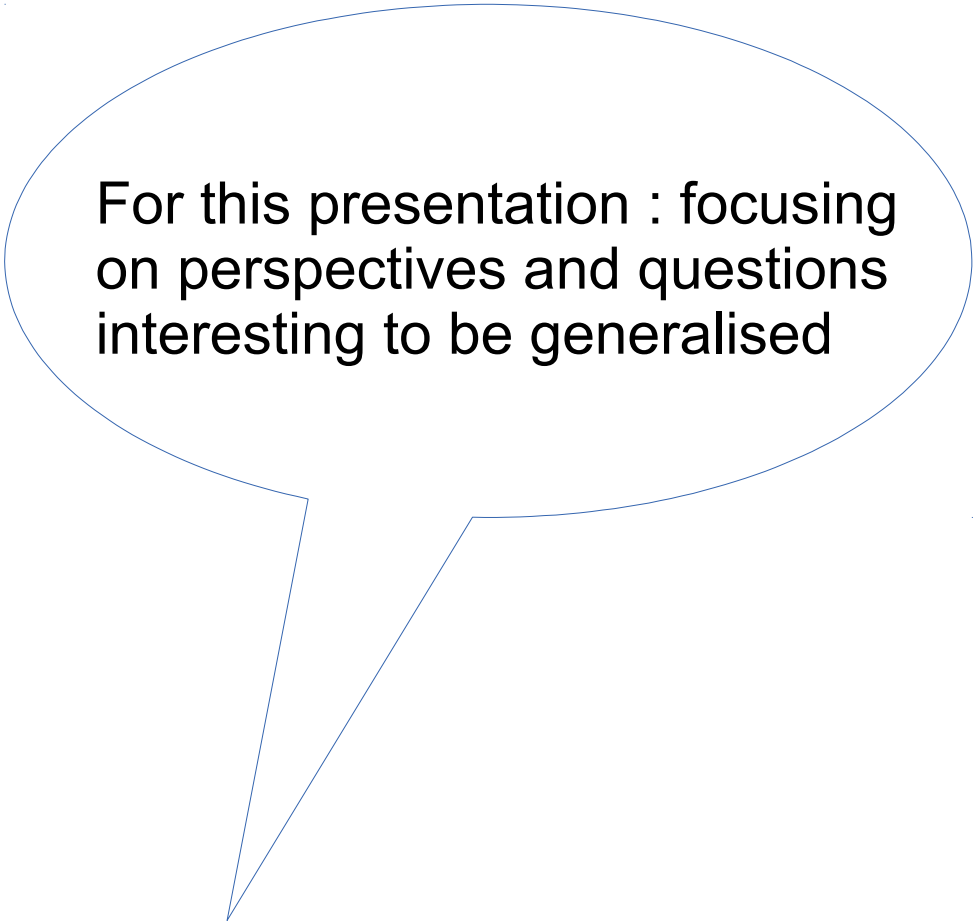


- Question : how to plan this area for
- a better balance on fruit
 - multifunctional uses

Focus

Fruit trees project in La Prevalaye area

- 2016 – 2017 : a new group of students in the same Master => interdisciplinary process
- Question : scenarios to implement fruit trees production for Rennes consumption in La Prevalaye area



For this presentation : focusing on perspectives and questions interesting to be generalised

2 scenarios for fruit trees production

- **Maximising production**

- The city council selects the projects
- Fruits are considered as marketable products
- COSTS mainly covered by the private project managers through fruits sales
- Local marketing
- Incomes of producers completed by educational activities around fruit production
- Quality label

NB : scenario consistent with the local food plan

- **Maximising public participation**

- Fruits are considered as public goods
- The city council provide land and trees for social experimentation around fruits
- COSTS mainly covered by the local council and public budget
- The fruit production is organised by a cooperative system involving citizens, associations, professionals and policy makers
- Local citizens volunteering for production (Incredible edibles type)
- Environmental labels

4 types of designs for fruit planting

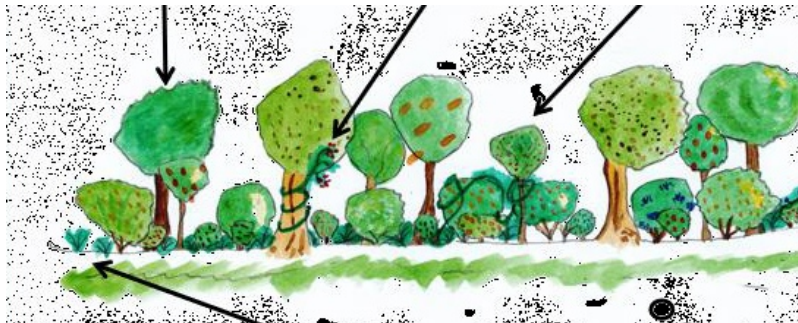
+ Adapted practice agronomic guidelines for each type



Agro-forestry (+ cereals, or sheeps, or poultry, or vegetables)



Orchards

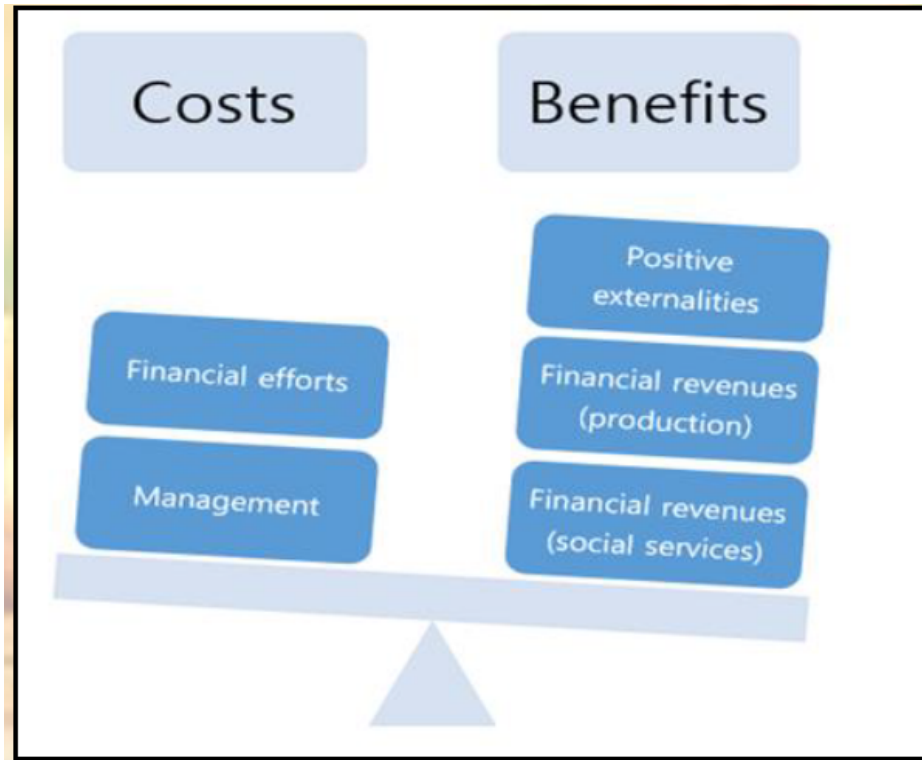


Hedges (with 3 levels of vegetation, all including fruits)



Parkings

Economic approach



Benefits

- Production
- Events
- Public supports for public goods provision
- Land leasing
- Positive externalities

• Costs

- Planting
- Fertilisation, trees protection
- Pruning and maintaining the trees
- Fuel
- Tools
- Jobs
- Services
- Management and administration
- Insurance
- Storage
- Transportation
- Selling and distribution

Local externalities

	Productive scenario	Participatory scenario
Camping, walking	-	++
Jogging	++	++
Activate local market	++	0
Social integration	++	+++
Educational activities, know-how	++	+++
Jobs	+++	++
Increase property value	+	++

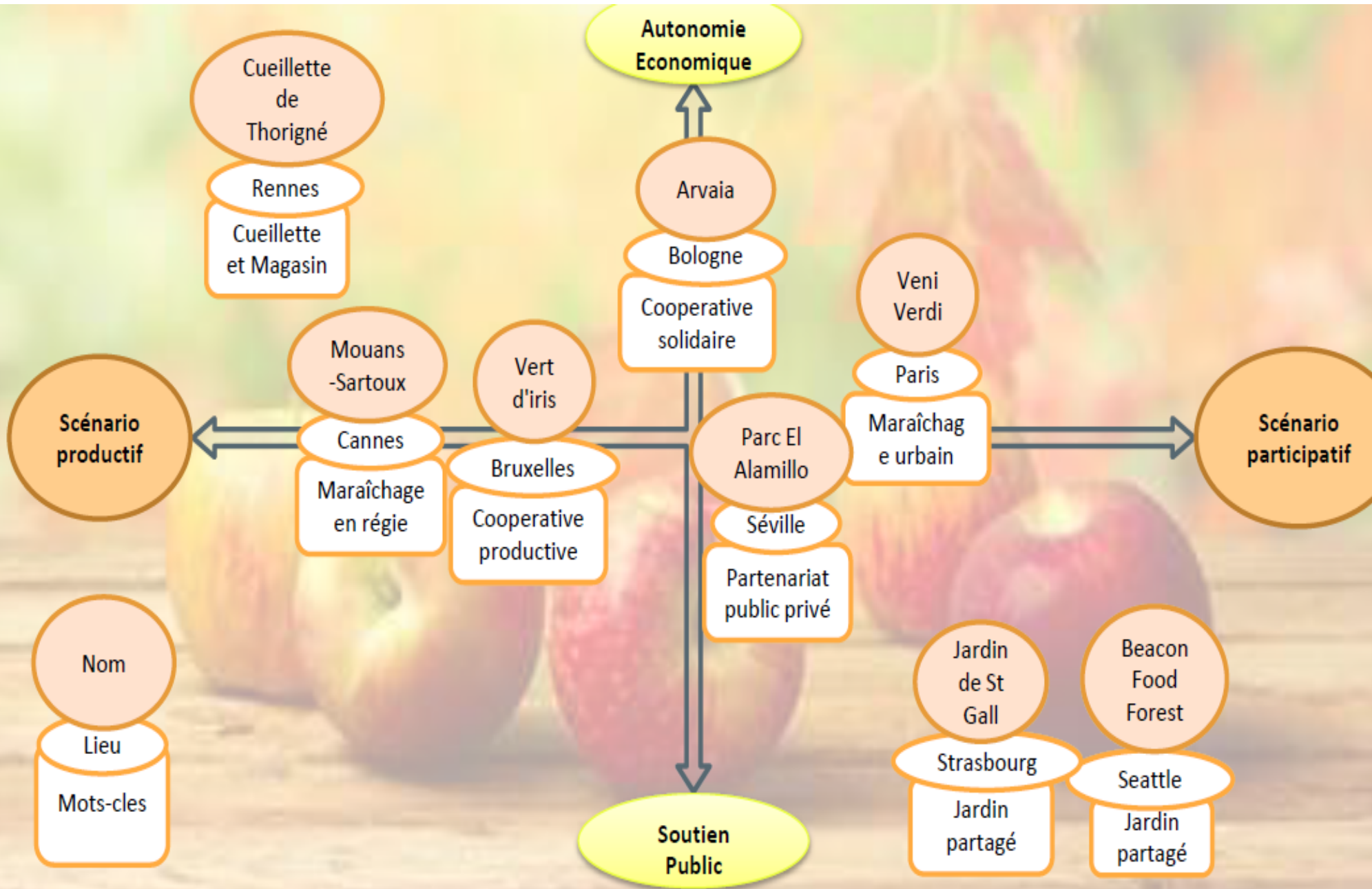
Global externalities

	Productive scenario	Participatory scenario
Environment	++	+++
Greenhouse gaz	+	+
Biodiversity	++	+++
Protection of natural species	++	++
Landscape	++	+++

LEGAL and SOCIAL QUESTIONS to be faced

- What kind of contract for public land ?
- Who is responsible in case of problems ?
- Who owns the trees, the fruits ?
- Who is “the boss”, “the manager” ?
- How to organize mixed funding ?
- How to enrole citizens in participation ?
- How to avoid ony occasional participation and ensure long term care of the trees ?
- Will fruits be stolen or spoiled ?
- How to organise the local fruit marketing including public procurement ?
- Which kind of education and of organisation is needed ?

Other examples





Thank you for your attention !