AESOP4FOOD

Action for Education Spatial Organisation and Planning For Sustainable Food

PHASE II

Analysing your local foodscape

Session 1

April 28, 2022

Source image: De Boer & de Olde et al 2020
Re-rooting the Dutch food system.

LE:NOTRE Institute
Linking landscape education, research and innovative practice

Erasmus+

LE:NOTRE Institute
Linking landscape education, research and innovative practice

L'INSTITUT agro Montpellier

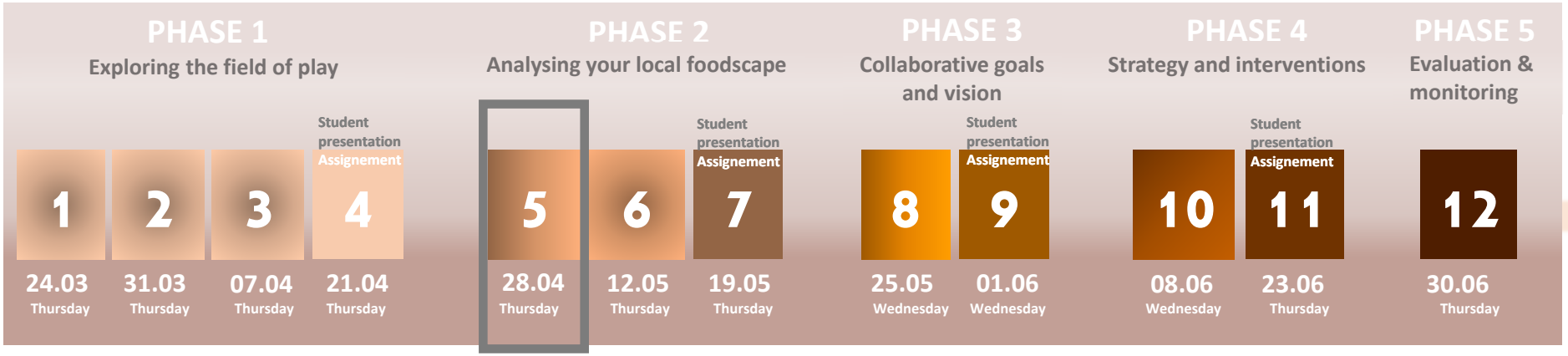
RED DE MUNICIPIOS POR LA AGROECOLOGÍA

Online Seminar

AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

COURSE SCHEDULE

March 24 - June 30, 2022 Thursday or Wednesday / 17:00 to 18:30 CET



ASSIGNMENTS

Assignement 1 - Exploring the field of play
Assignement 2 - Analysing your local foodscape
Assignement 3 - Collaborative goals and vision
Assignement 4 - Strategy and interventions
Assignement 5 - Evaluation & monitoring

INTENSIVE WORKSHOP Madrid June 26- July 5, 2022

LE:NOTRE Institute
Linking landscape education, research and innovative practice
POLITÉCNICA
UNIVERSIDAD POLITÉCNICA DE MADRID
UNIVERSITEIT GENT
L'INSTITUT agro Montpellier
RED DE MUNICIPIOS POR LA AGROECOLOGÍA
pracownia dóbr wspólnych
Terres en villes
Erasmus+

AGENDA of the session

Introduction
Marian Simón Rojo, Universidad Politecnica de Madrid

Steps and guiding questions for mapping food systems
Jeroen de Vries, LE:NOTRE Institute

Short exercise of stakeholder mapping
Marian Simón Rojo, Universidad Politecnica de Madrid

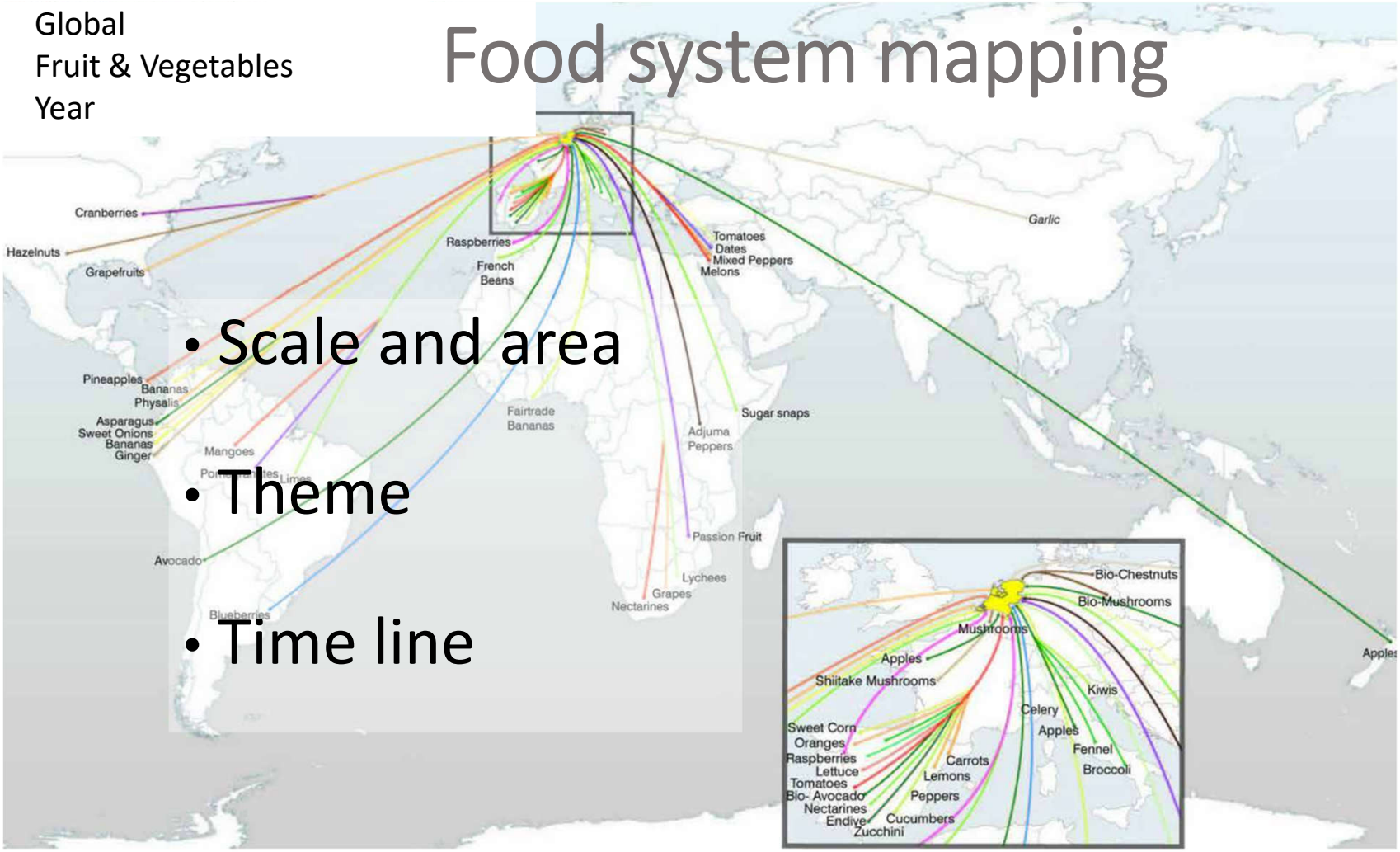
Case study: Mapping the Short Food Supply Chains
Jorge Molero, Red de Municipios por la Agroecologia

Steps and guiding questions for mapping food systems

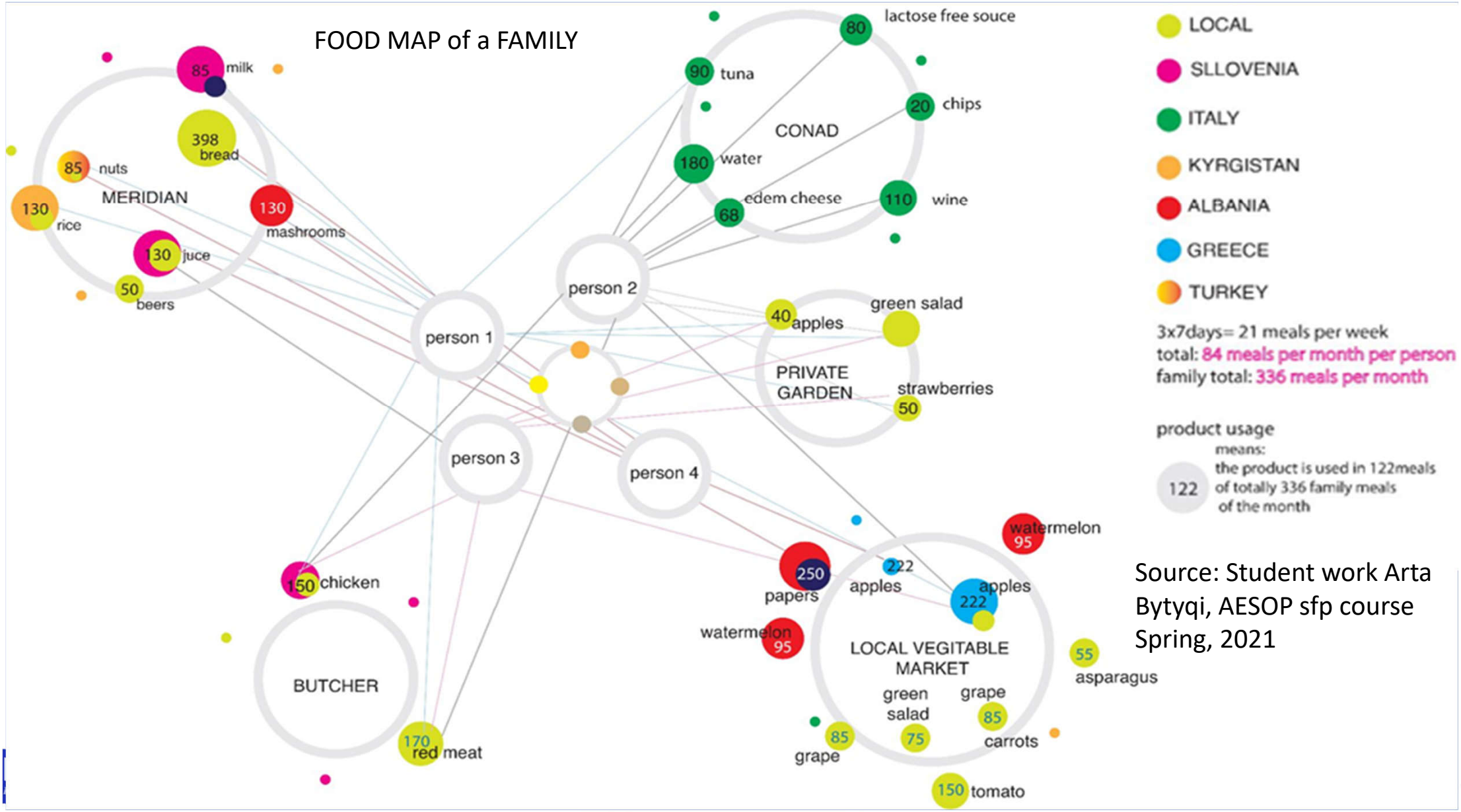
Jeroen de Vries, LE:NOTRE

Global
Fruit & Vegetables
Year

Food system mapping



- Scale and area
- Theme
- Time line



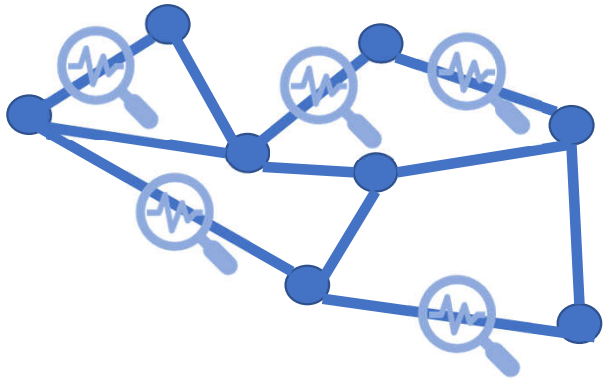
Source: Student work Arta Bytyqi, AESOP sfp course Spring, 2021

Food system mapping

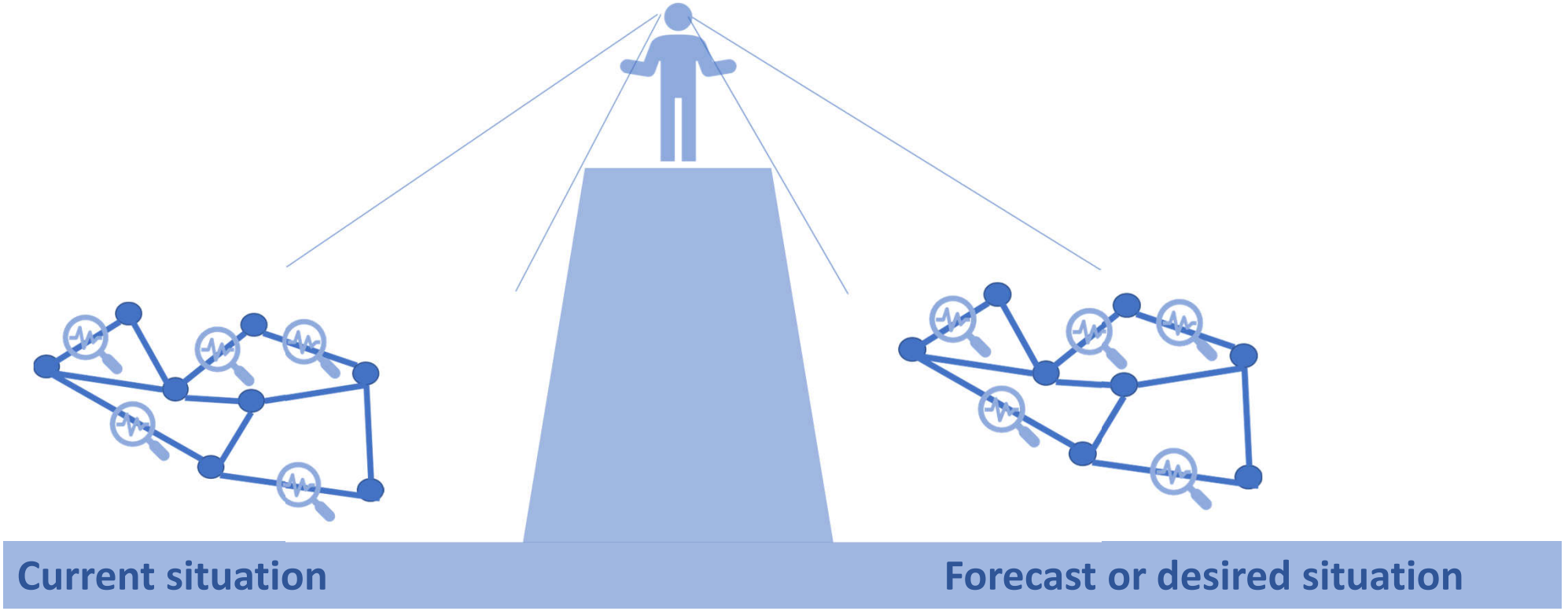
- Mapping methods for the system
- Map of the community and the main stakeholders
- Guiding questions for your analysis

System network

- Elements
- Relations
- Quantitative and qualitative data



What do you want to use for analysis?



Step 1: which elements are part of my system? You can just list them during a brainstorm

- Types of food?
- Crops and produce for the food?
- Actors?
- Stakeholders?
- Land? Types of production areas?
- Materials?

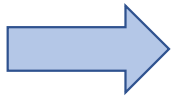
Step 1: which elements are part of my system? You can just list them during a brainstorm

- Vegetables
- Eggs
- Compost
- Schoolgardens
- Meadows
- Kitchengardens
- Farmersmarket
- Mill
- Consumers
- Farmers
- Bakers
- Market gardens
- Community gardens
- Waste land
- Schoolchildren
- Supermarkets

Step 1: which elements are part of my system? You can just list them during a brainstorm

- Vegetables
- Eggs
- Compost
- Schoolgardens
- Meadows
- Kitchengardens
- Farmersmarket
- Mill

- Consumers
- Farmers
- Bakers
- Market gardens
- Community gardens
- Waste land
- Schoolchildren
- Supermarkets

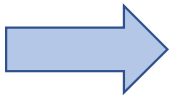


- *In canteens*
- *Foodbanks*
- *Less advantaged*
- *Tourists*
- *In restaurants*
- *Streetfood*
- *Schoollunches*
- *Prosumers*
- ……

Step 1: which elements are part of my system? You can just list them during a brainstorm

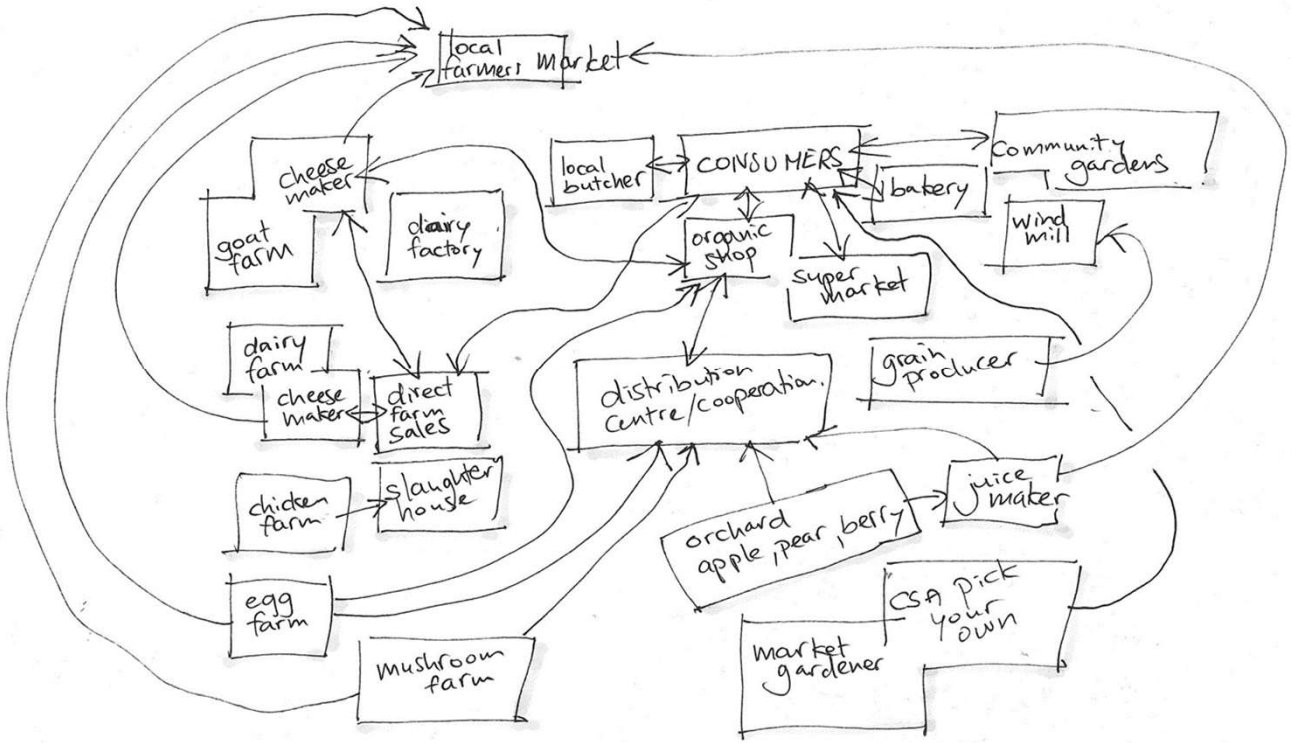
- Vegetables
- Eggs
- Compost
- Schoolgardens
- Meadows
- Kitchengardens
- Farmersmarket
- Mill

- Consumers
- Farmers
- Bakers
- Market gardens
- Community gardens
- Waste land
- Schoolchildren
- Supermarkets



- *Export oriented*
- *Organic farmers*
- *Community Supported Agriculture*
- *Farmers open for transition*
- *Urban farmers*
- *Care farms*

Step 2: organise and group the elements: hierarchy, typolology, define the relations

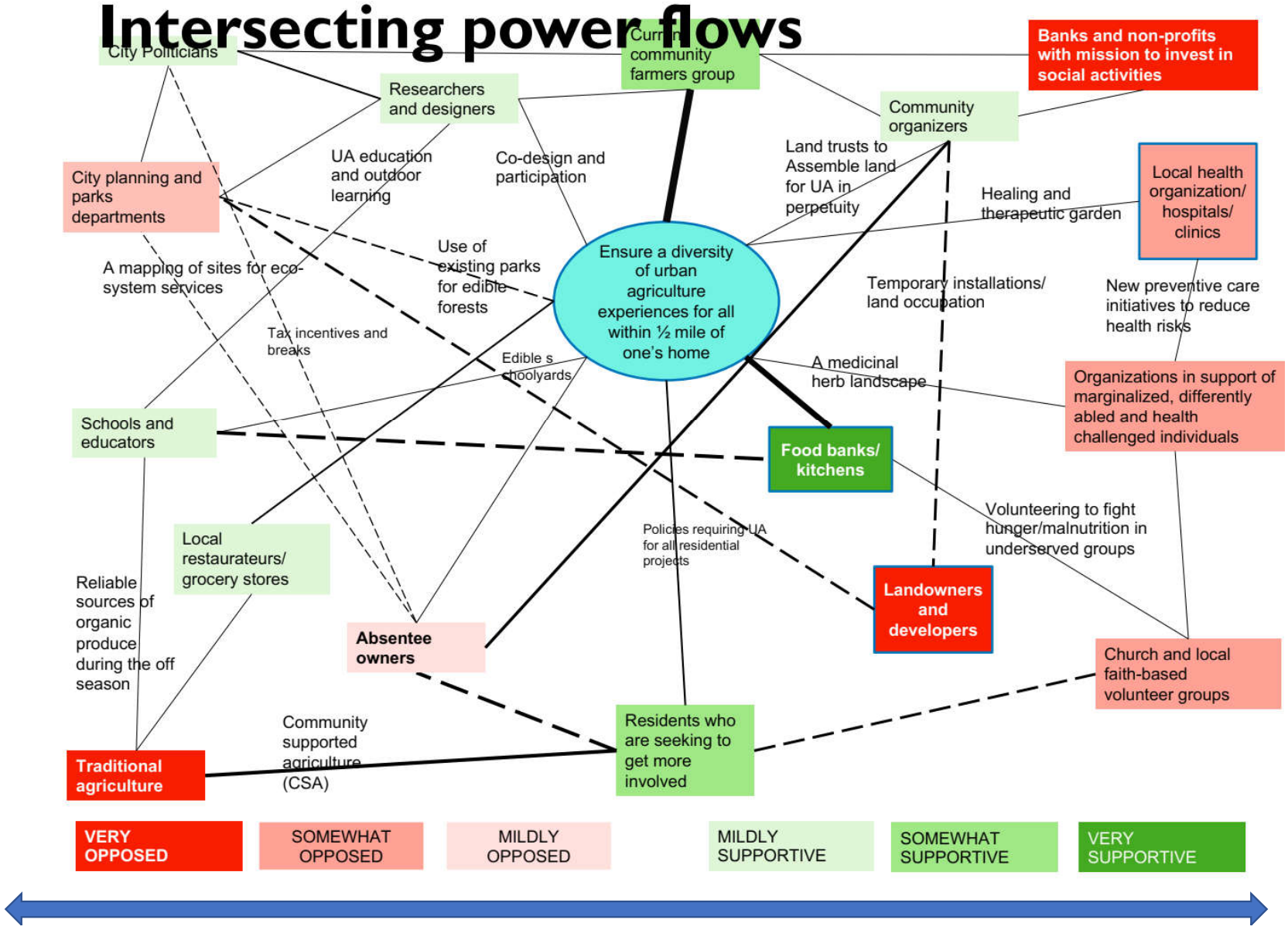


Step 3: how do the elements relate to each other?

a. Flows, streams, processes, social relations

b. Qualitative: power, regulations, laws

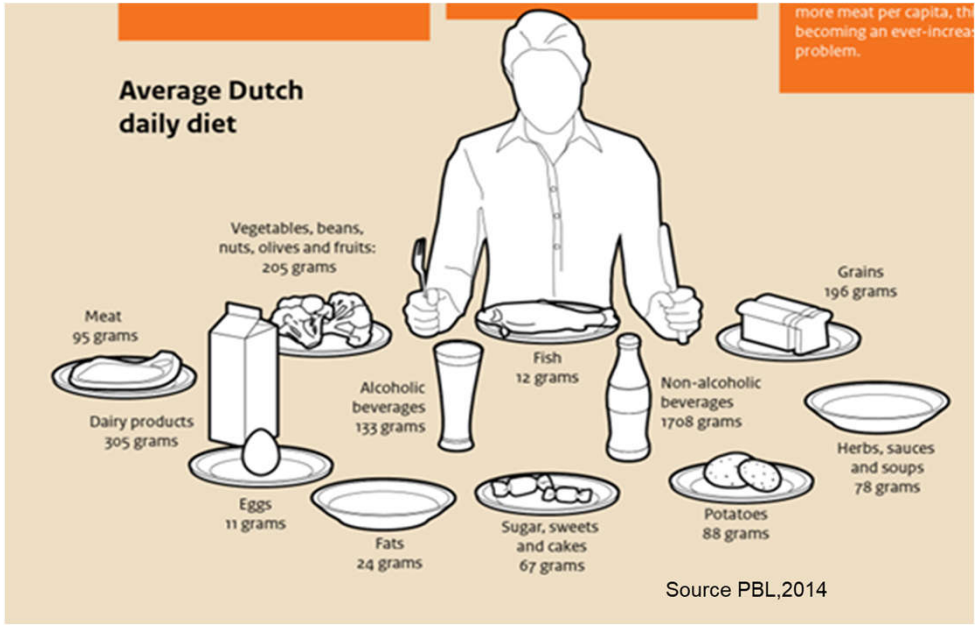
c. Quantitative relations: make sure you use standard units and clear conversions



Source: Deni Ruggeri, presentation landscape democracy, LE:NOTRE Landscape Forum 2022, student work

Step 4: collect data on the elements and the relationships

- How many consumers are there?
- How much vegetables do they eat per year?
- How much land do you need for the crops?
- What type of production land or facilities is available?
- ……



Step 5 Make sure that the units of quantative data are linked to each other

AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

Production per year

Crop or product	kg/m^2 *)	notes
Potatoes	**2,9**	
Grain	**0,7**	
Pulse	**1,5**	
Vegetables	**5**	open field
	30	glass house
Herbs	**1,5**	
Fruits	**4**	mostly apples and pears: farms, orchards, edible green
	2	berries in roof gardens, kitchen gardens
	8	berries in glass houses, tunnels (professional horticulture)
Beef	**0,07**	pasture in urban farm or green infra farm
Pork	**0,57**	urban farm or green infra farm, outdoor
Poultry	**0,11**	urban farm combination indoor/outdoor incl corn fodder
Fish	**6,67**	organic aquaponics, with fodder production and facilities
Cheese	**0,15**	1/10 of milk production per hectare
Dairy	**1,50**	2 cows per hectare, 7500 litres per cow per year
Eggs	**0,34**	urban farm combination indoor/outdoor including fodder (corn)

) the sources of the key figures can be found in the Excel file of the local urban food calculator

Consumption per year

Type of food	grams per person per day	kilos per person per year
Potatoes	88	241
Grains (pasta and bread)	156	427
Vegetables (excl. pulse)	145	397
Pulse	20	55
Fruits	40	110
Herbs	10	27
Beef	57	156
Pork	19	52
Poultry	19	52
Fish	12	33
Cheese	20	55
Dairy (excluding cheese)	285	781
Eggs	11	30

LE:NOTRE Institute
Linking landscape education, research and innovative practice

POLITÉCNICA
UNIVERSIDAD POLITÉCNICA DE MADRID

UNIVERSITEIT GENT

L'INSTITUT agro Montpellier

1816 SGGW

RED DE MUNICIPIOS POR LA AGROECOLOGÍA

pracownia dóbr wspólnych

Terres en villes

Erasmus+

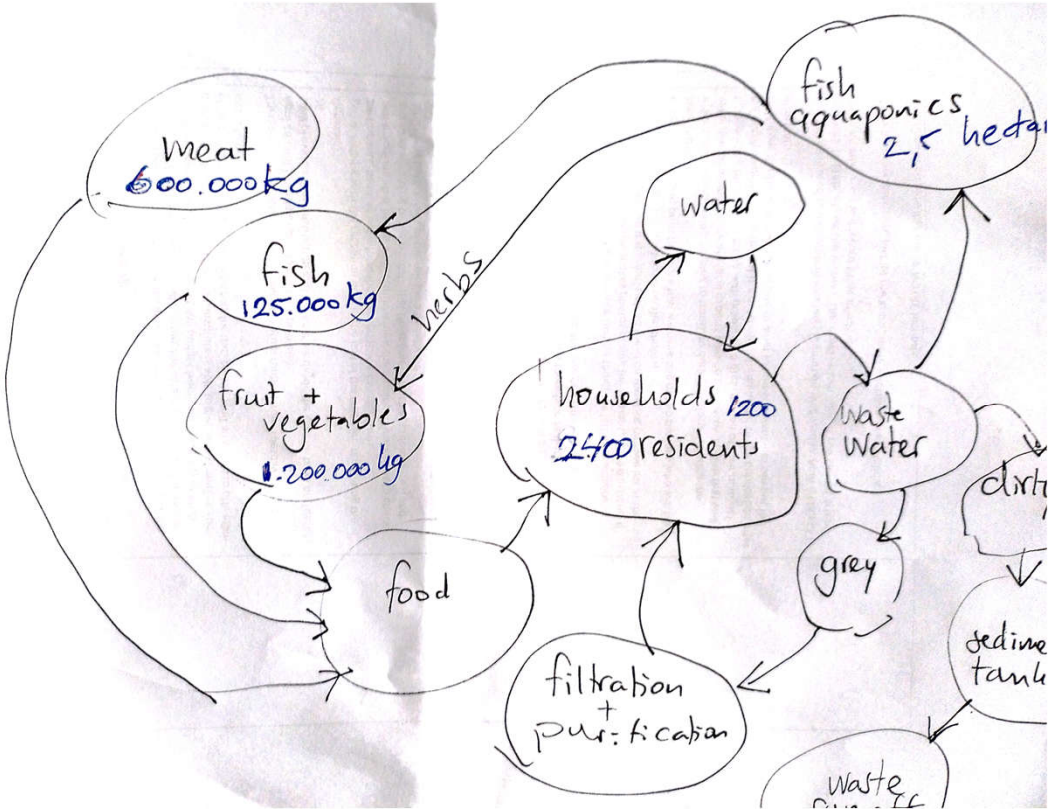
Step 6 Add the data in the system map

Depending on your theme:

Show the gaps

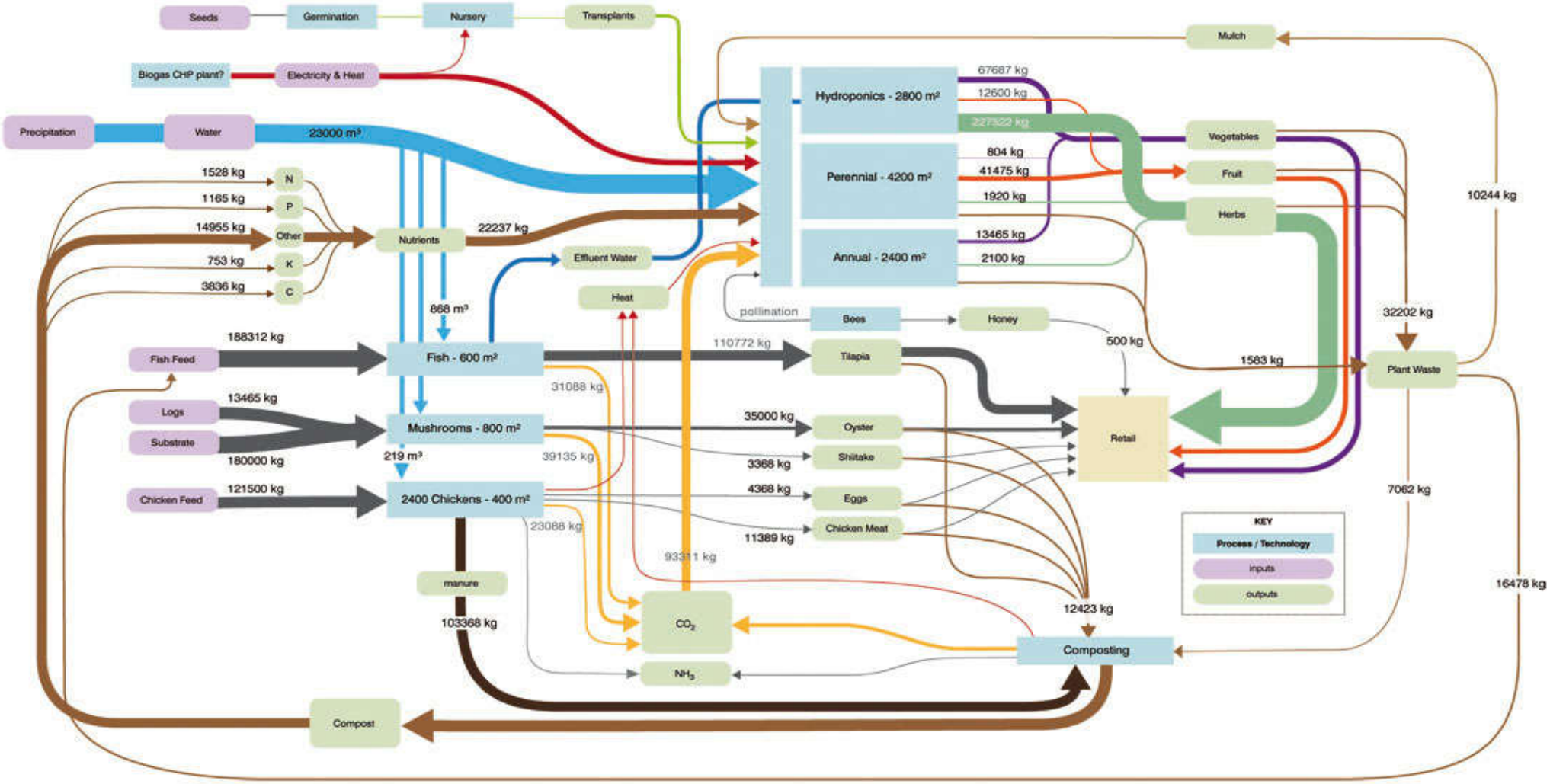
See how the system can be closed or improved

……



Polydome Material Flow Diagram

EXCEPT
Integrated Sustainability Consulting & Design
 www.except.nl



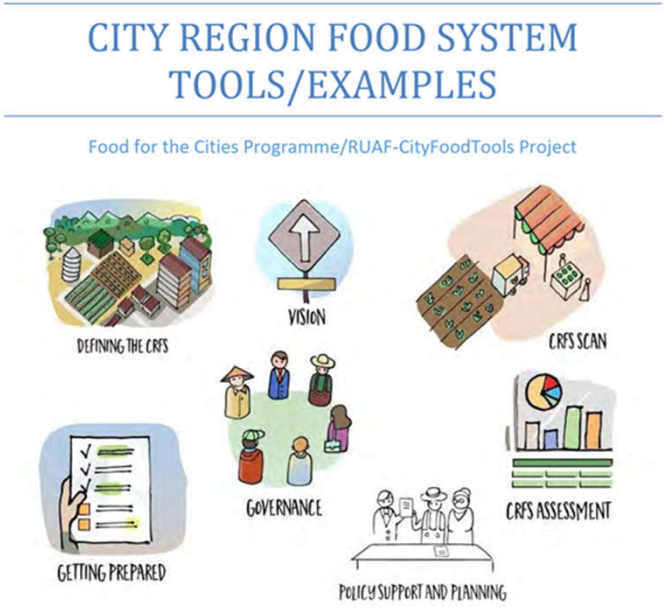
AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

Food system mapping

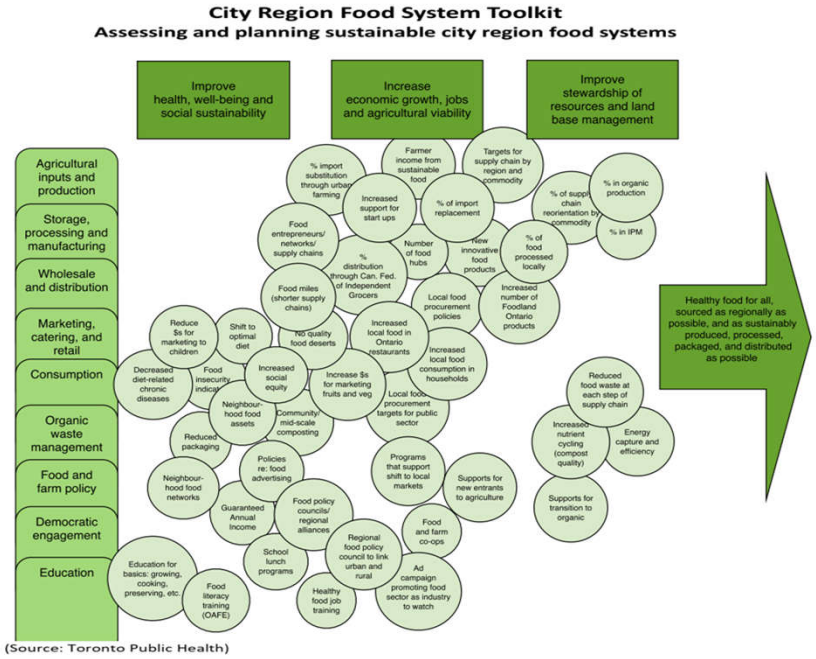
Guiding questions for your analysis

LE:NOTRE Institute
Linking landscape education, research and innovative practice
POLITÉCNICA
UNIVERSIDAD POLITÉCNICA DE MADRID
UNIVERSITEIT GENT
L'INSTITUT agro Montpellier
RED DE MUNICIPIOS POR LA AGROECOLOGÍA
pracownia dóbr wspólnych
Terres en villes
Erasmus+

Select a reference that fits your field of play, your theme such as FAO, RUAF and others



Source: FAO 2018



Use guiding questions on Food Systems (1)

A. Who feeds the city region:
- Where does the food come from?
- What and how much food is produced locally in the city region?
- Where are inputs and resources sourced from?
- How does the city region's food supply system fit into the wider national and global food supply system?

B. Food processing and manufacturing:
- Which companies prepare/manufacture the food consumed in the city region?

C. Food wholesale and distribution:
- Who supplies the food to businesses/markets that sell food to consumers?

D. Food marketing, catering and retail:
- Where do citizens buy their food? Please differentiate between citizens of different socio economic conditions and urban-rural areas.

FAO, 2018, p 134

Guiding questions on Food Systems (2)

E. Food consumption:

- What do people in the city region eat?
- What is the composition of their actual diet and food basket?
- What are food security/nutrition/food related health concerns?
- Can people access local food and where?

F. Food and organic waste:

- Where and how much food and organic waste is generated along the food chain, how is it managed?

G. What policies and plans influence the CRFS?

- Identify policies directly related to food production, processing etc., as well as other sectoral policies (health, economic development, land use planning) that have a bearing on the CRFS.

H. Who governs the food system?

- What role and power do decision-makers and key stakeholders have in shaping a more sustainable/resilient food system that serves the city region?

FAO, 2018, p 134

CRFS Toolkit: questions for analysis

- What are the strengths and vulnerabilities of the current city region food system?
- To what extent is the current food system (and different parts of the food system) resilient to shocks and projected circumstances in the longer-term?
- Which areas of the city region, what parts of the food chain and which groups of residents/involved stakeholders would be most adversely affected by vulnerabilities in the food system?
- What are the key priority areas that need to be addressed to develop a more sustainable and resilient food system for the future?
- What are the 5-10 main key issues that require further research and in-depth assessment?

FAO, 2018, p 135

Recap

- Which elements are part of my system?
- Organise and group the elements
- How do the elements relate to each other?
- Collect data on the elements and the relationships
- Make sure that the units of quantative data are linked to each other
- Add the data in the system map
- Use guiding questions for your analysis

References

- FAO. (2018) City Region Food System Toolkit, Assessing and planning sustainable city region food systems, publication of FAO, RUAF and Wilfrid Laurier University. http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/ - introduction (page 1-3), questions and schemes of page nrs 133 until 144.
- Virginia Polytechnic Institute and State University. (2011) Community-Based Food System Assessment and Planning - Facilitator's Guidebook, publication 3108-9029.- introduction and then continue until page 18.
- Countryside Charity (CPRE – UK) https://www.cpre.org.uk/resources/mapping-local-food-webs-toolkit-2/ - 7 pages that explain the toolkit.

Exercise on stakeholders and levels of power

Marian Simón Rojo, UPM

AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

II_INSTRUCTIONS FOR MAPPING

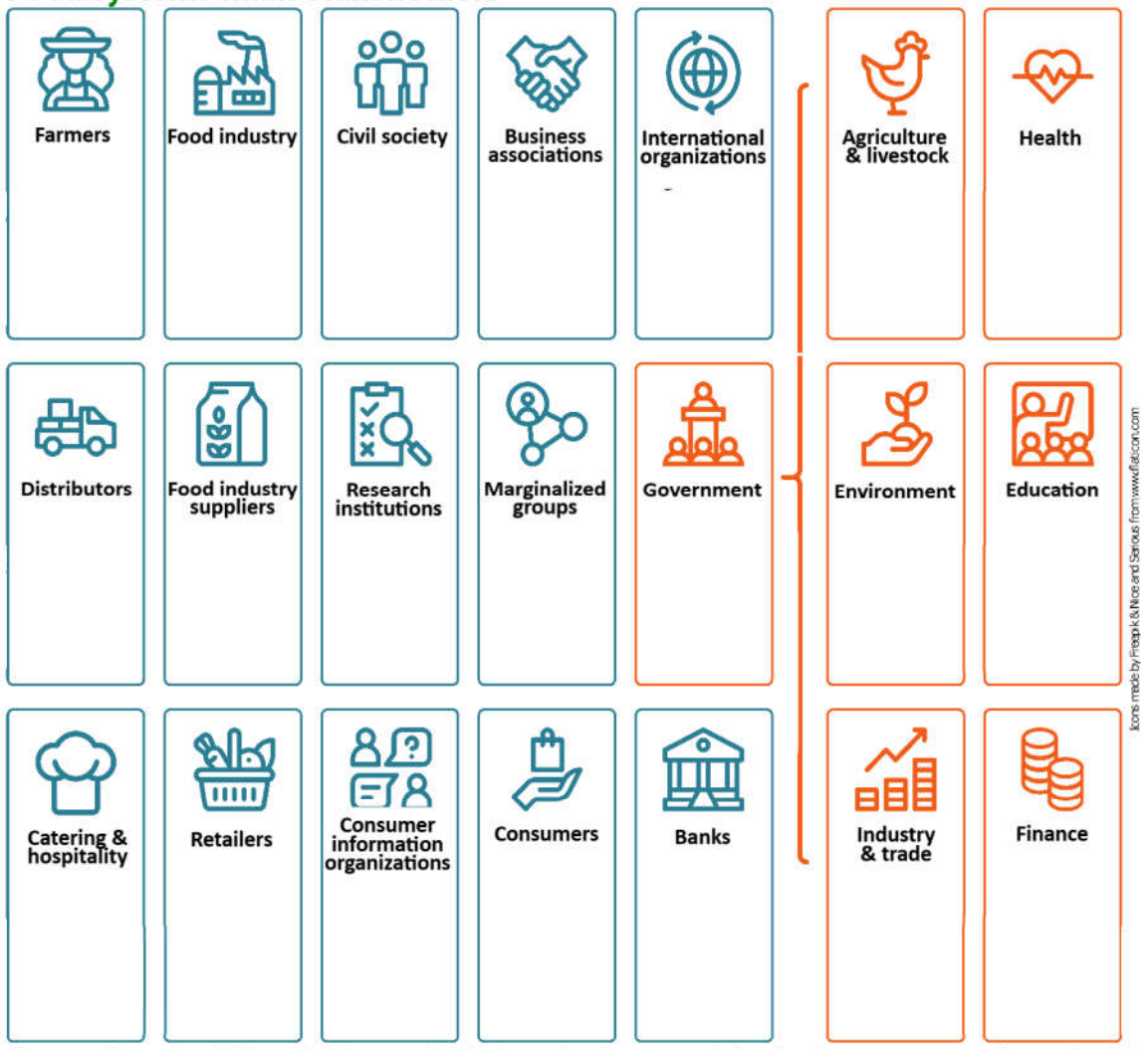
1. Give a Title that depicts the Food system you are working at.

2. Identify the stakeholders:
   2.a Engaged/promoting transformation (Green)
   2.b Hindering transformation (Red)
   2.c Not engaged, but potentially an ally (Blue)

3. Write down the name of each stakeholder (complete information to be filled in the excel file).

4. Show the power. Add 1 to 5 stars to each stakeholder, according to the power they hold

TITLE:



Fuente: Bortoletti, M., and J. Lomax. "Collaborative framework for food systems transformation." A multistakeholder pathway for sustainable food systems. UN environment

You will receive the links to the Mural in the slack channel

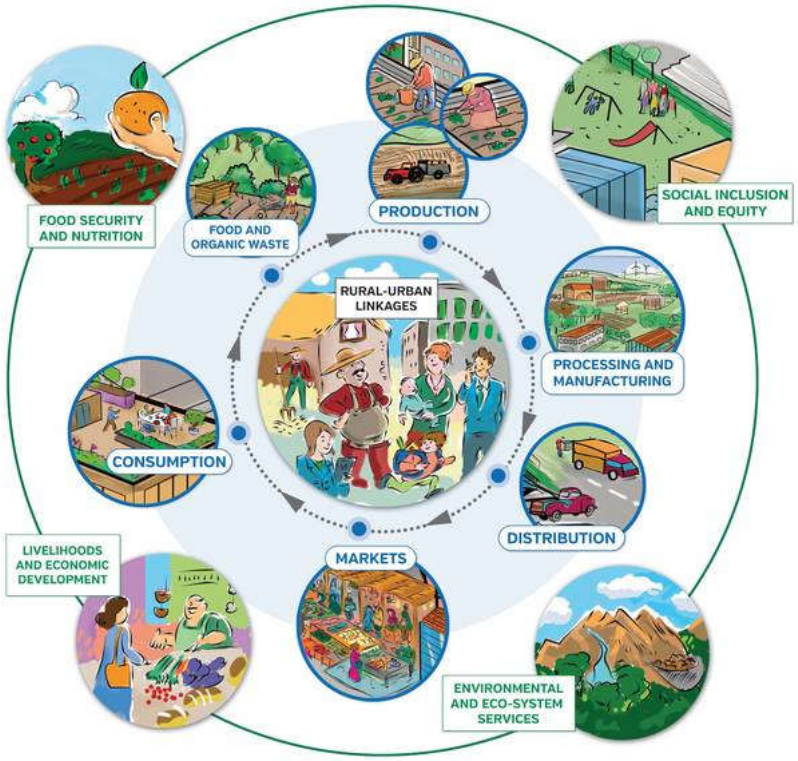
AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

Case study: Mapping the Short Food Supply Chains

Jorge Molero, RMAe 28/04/2022

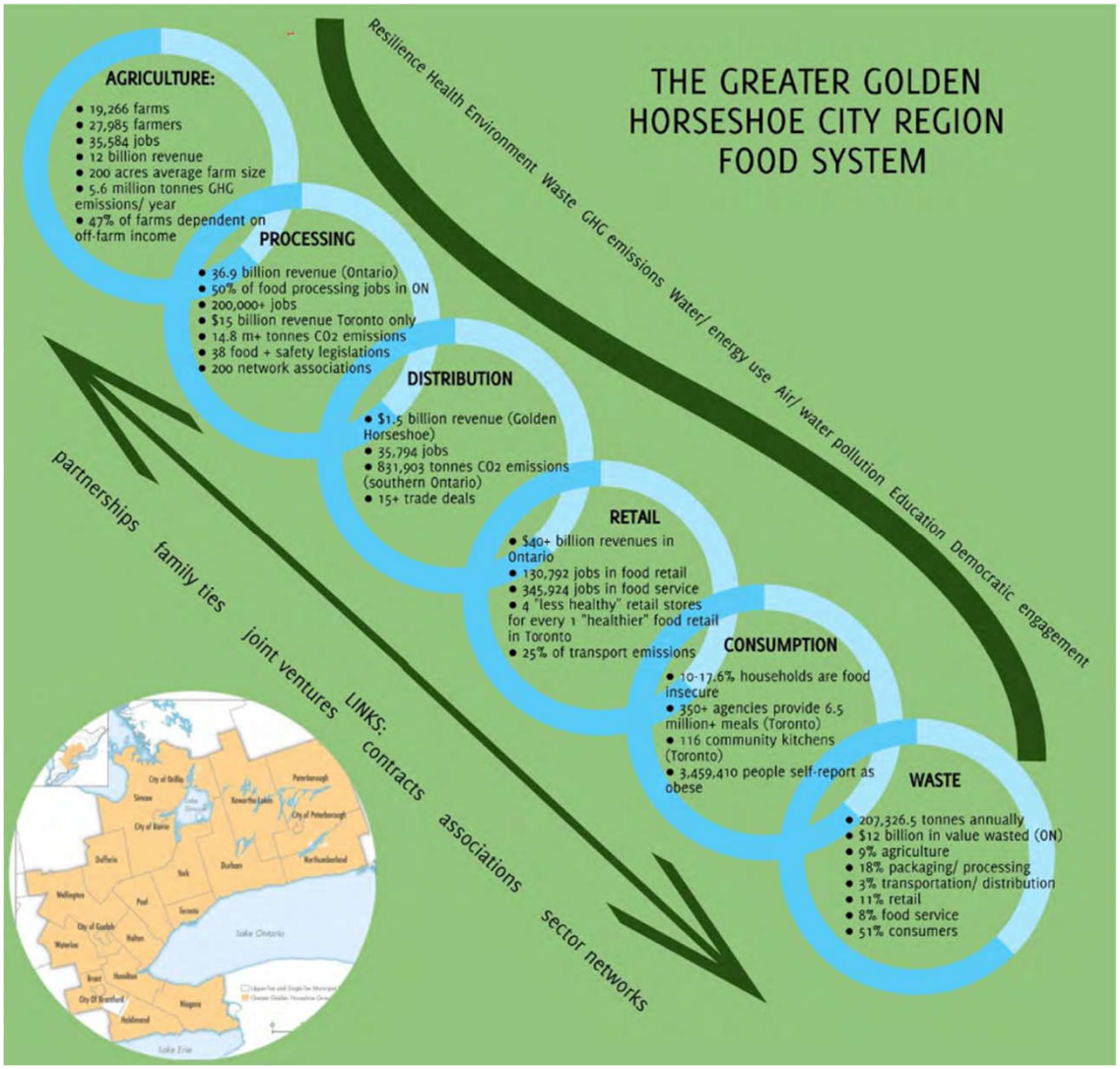
LE:NOTRE Institute
Linking landscape education, research and innovative practice
POLITÉCNICA
UNIVERSIDAD POLITÉCNICA DE MADRID
UNIVERSITEIT GENT
L'INSTITUT agro Montpellier
RED DE MUNICIPIOS POR LA AGROECOLOGÍA
pracownia dóbr wspólnych
Terres en villes
Erasmus+

City Region Food Systems: Actors & Challenges



City Region Food System is defined as "

- all the actors, processes and relationships
- that are involved in food production, processing, distribution and consumption
- in a given city region".



Mapping the WHOLE Food System

AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

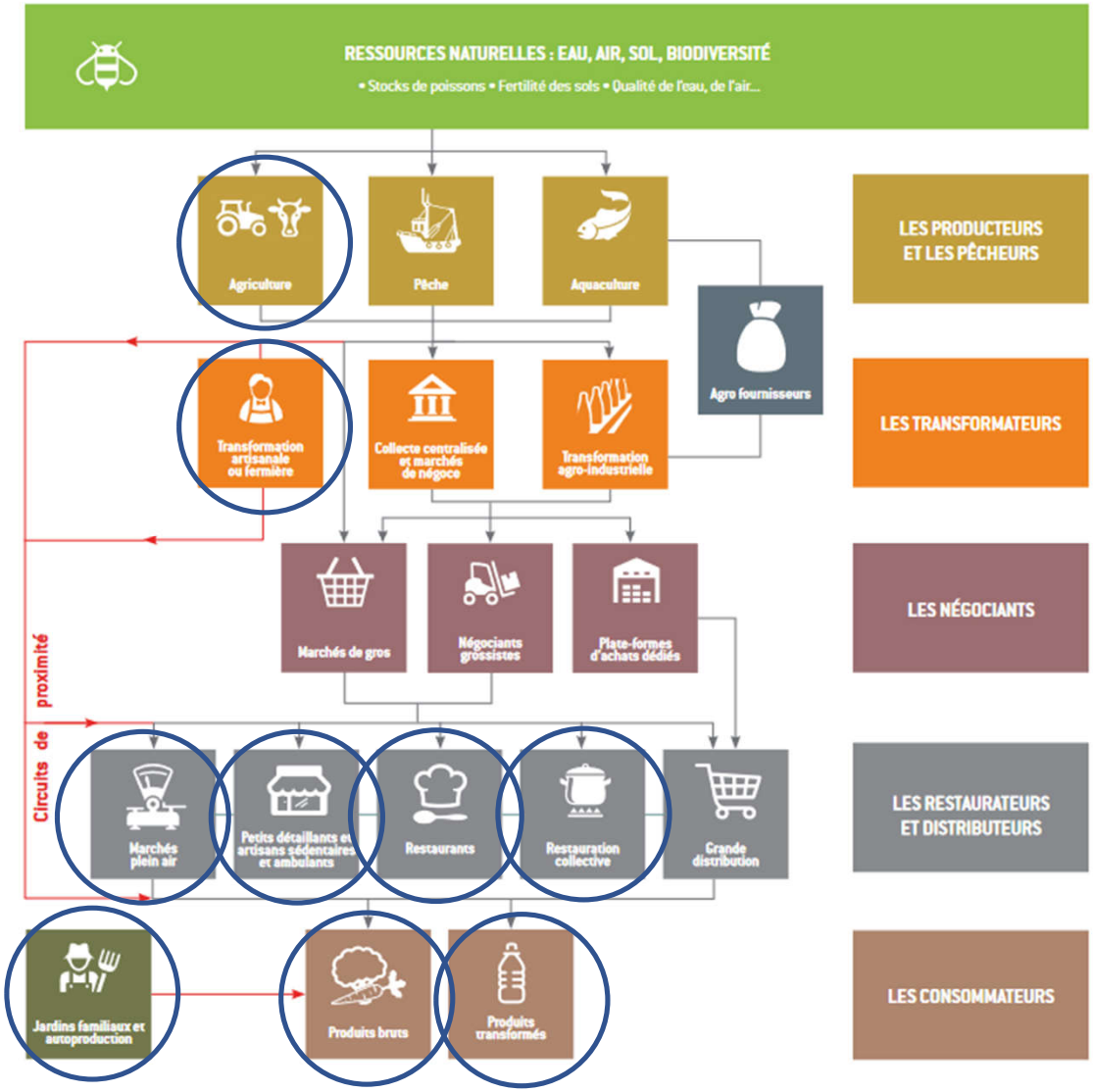
LE:NOTRE Institute
Linking landscape education, research and innovative practice

POLITÉCNICA
UNIVERSIDAD POLITÉCNICA DE MADRID
UNIVERSITEIT GENT
L'INSTITUT agro Montpellier
RED DE MUNICIPIOS POR LA AGROECOLOGÍA
pracownia dóbr wspólnych
Terres en villes
Erasmus+

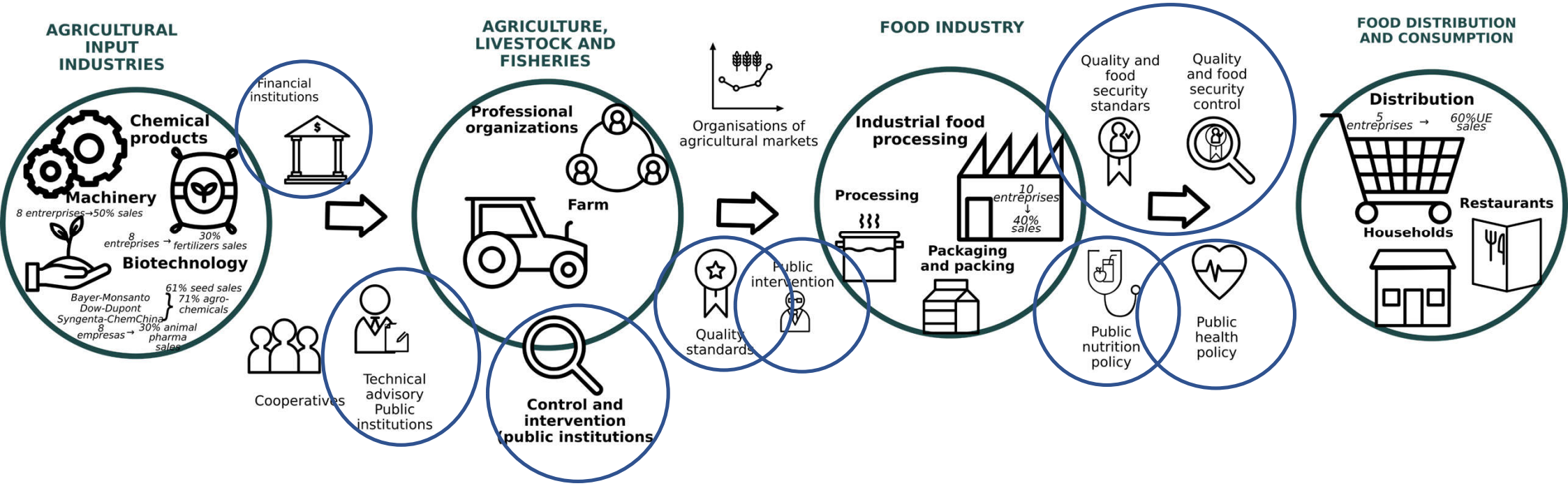
What are Short Food Supply Chains?

- They are Supply Chains, Short in term of
  - Number of nodes = intermediaries
  - Distance = km
- Balanced
  - in economical relations
  - risk management

Actors of the Food Systems

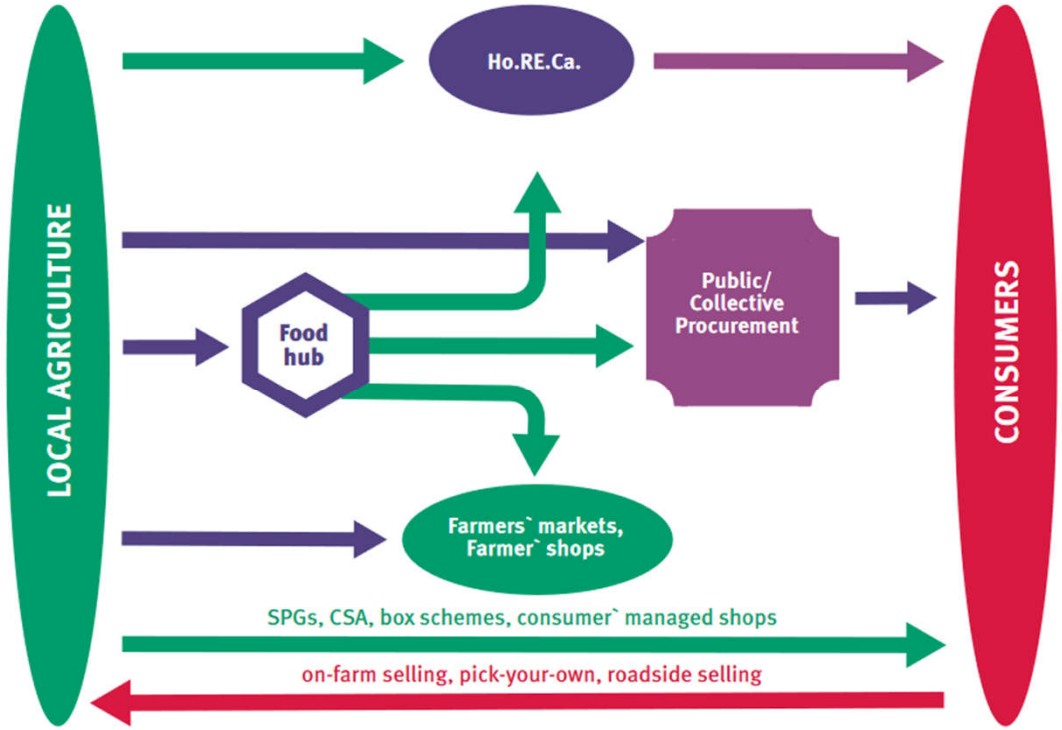


Do no forget “invisible” actors due to scale



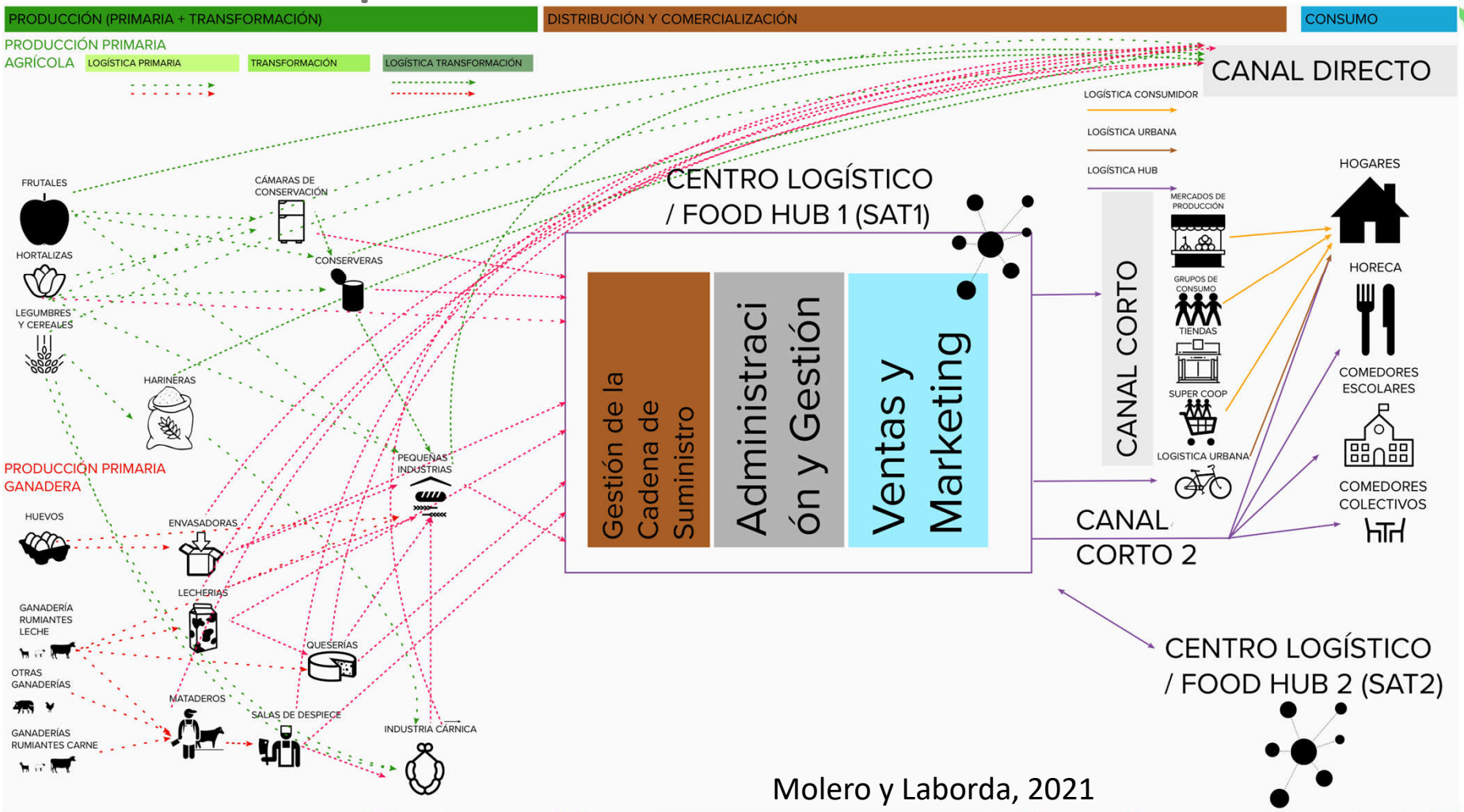
Molero Cortés et al, 2018. Based on Whatmore, 1995

A map of SFSCs typologies



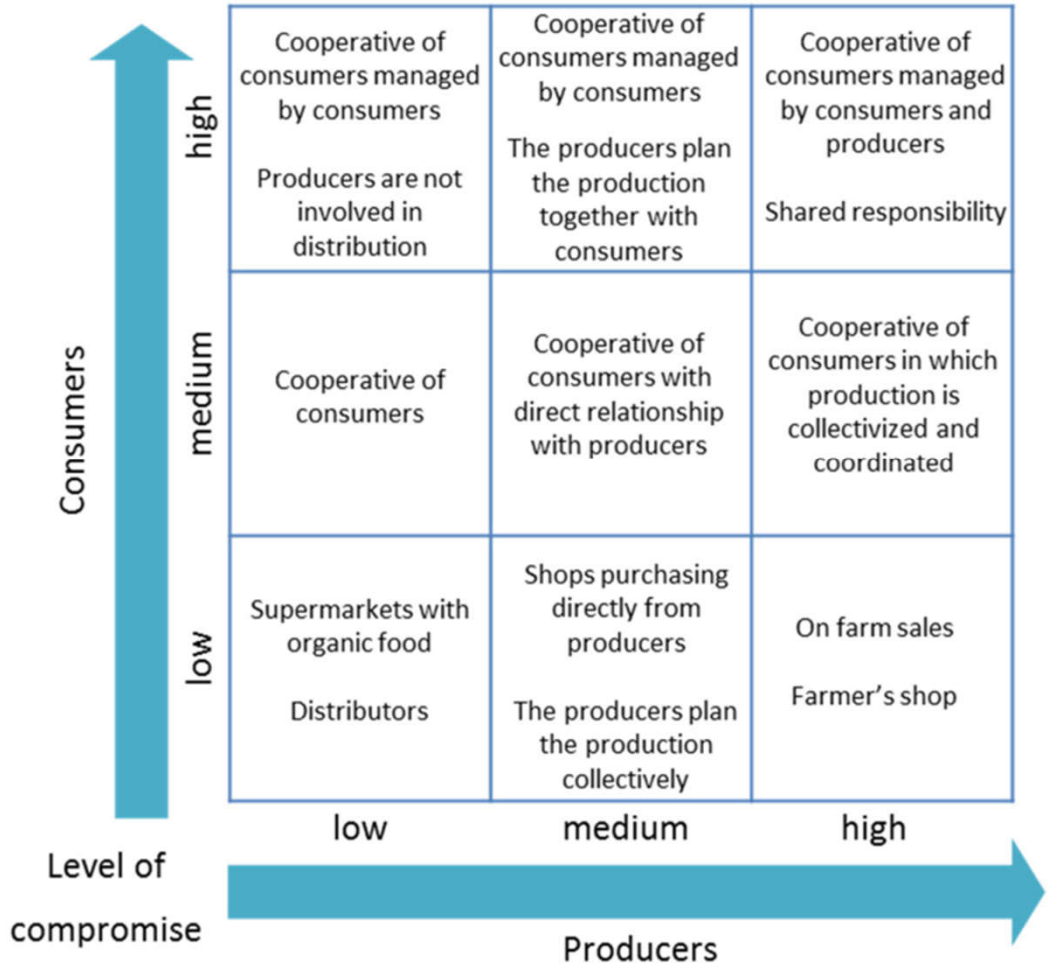
United Nations Industrial Development Organization, 2020

A more complex vision…



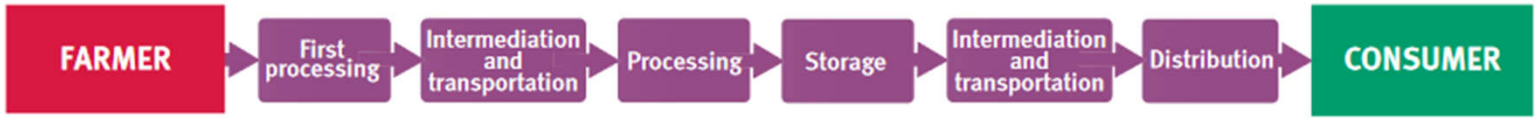
Molero y Laborda, 2021

Main actors of SFSC and typology

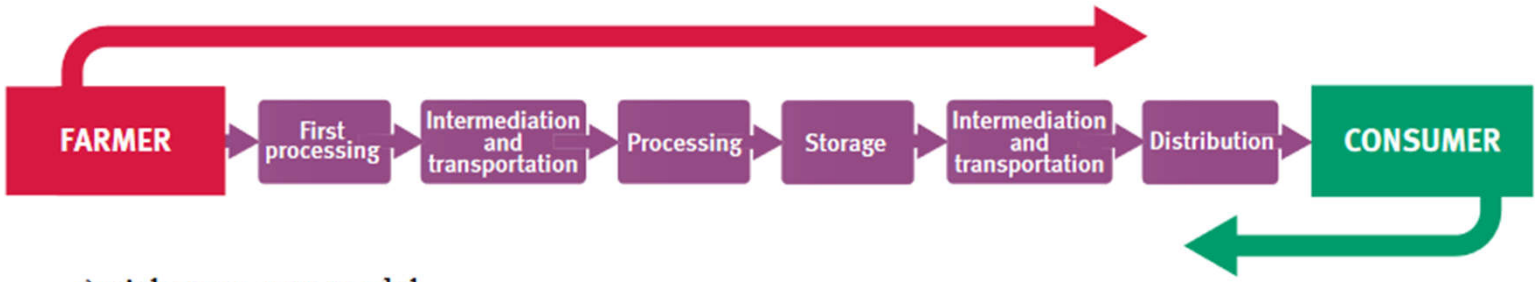


Jarzebowski et al, 2020

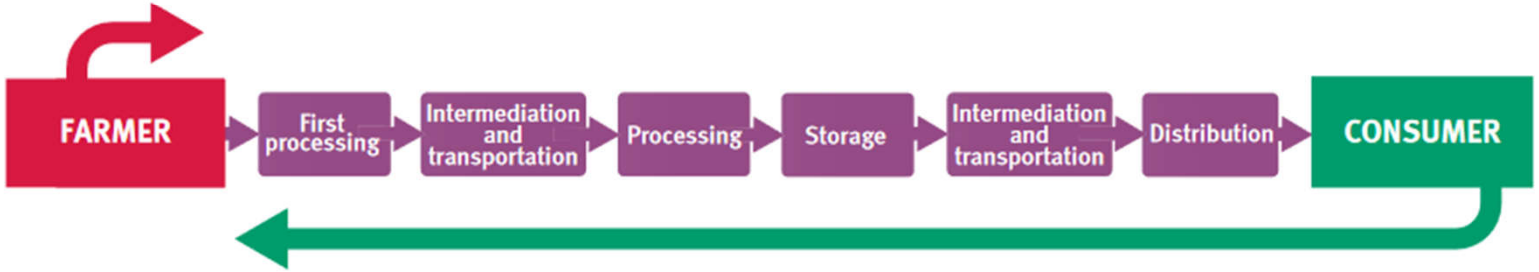
a) general representation



b) farmers`market model



c) pick-your-own model



United Nations Industrial Development Organization, 2020

Use guiding questions on Food Systems (1)

A. Who feeds the city region:
- What and how much food is produced LOCALLY in the city region?
- Where are inputs and resources LOCALLY sourced from?

B. Food processing and manufacturing:
- Which companies prepare/manufacture LOCALLY the food consumed in the city region?

C. Food wholesale and distribution:
- Who supplies LOCALLY the food to businesses/markets that sell food to consumers?

D. Food marketing, catering and retail:
- Where do citizens buy their food? Please differentiate between citizens of different socio economic conditions and urban-rural areas.

FAO, 2018, p 134

Guiding questions on Food Systems (2)

E. Food consumption:

- What do people in the city region eat? What is the composition of their actual diet and food basket
    - Main products!
- Can people access LOCAL food and where?

F. Food and organic waste:

G. What policies and plans influence the CRFS?

H. Who governs the food system?

FAO, 2018, p 134

Do not forget!

- Map physic and VIRTUAL networks
- Relevance and statistical significance
- Diferent analysis
  - Whole food analysis
  - Product analysis
  - Main producto analysis

PHASE	STEP	Who?/What?		Where?	How?	Why?	For whom?	How much/many?
QUALITATIVE ANALYSIS	Step 1: Identify elements & Step 2: Organise and group the elements	People & Organizations		x	x	x	x	
		Infraestructure: Land & Others		x	x	x	x	
		Products		x	x	x	x	
	Step 3: how do the elements relate to each other?	Flows and streams			x	x	x	
		Processes			x	x	x	
		Social relations			x	x	x	
		Power, regulations, laws			x	x	x	
RESULT		**Qualitative MAP**		**x**	**x**	**x**	**x**	
QUANITATIVE ANALYSIS	Step 4: Collect Data	Elements	Producers	x				Number, €, kg
			Consumers	x				Number, €, kg
			Ho.RE.Ca	x				Number, €, kg
			Food-Hubs	x				Number, €, kg
			Public/collective Procurement	x				Number, €, kg
			Farmers markets	x				Number, €, kg
			Farmers shops	x				Number, €, kg
			SPGs, CSA, Box-schemes, consumer managed	x				Number, €, kg
			On-farm selling, pick your own-roadside selling	x				Number, €, kg
			Self production	x				Number, €, kg
		Relationships/Flows			x			
	Step 5 Make sure that the units of data are linked to each other							
	Step 6 Add the data to the system map							
RESULT		**Qualitative +Quantitative MAP**		**x**	**x**	**x**	**x**	**x**

Product analysis: In season tomato supply

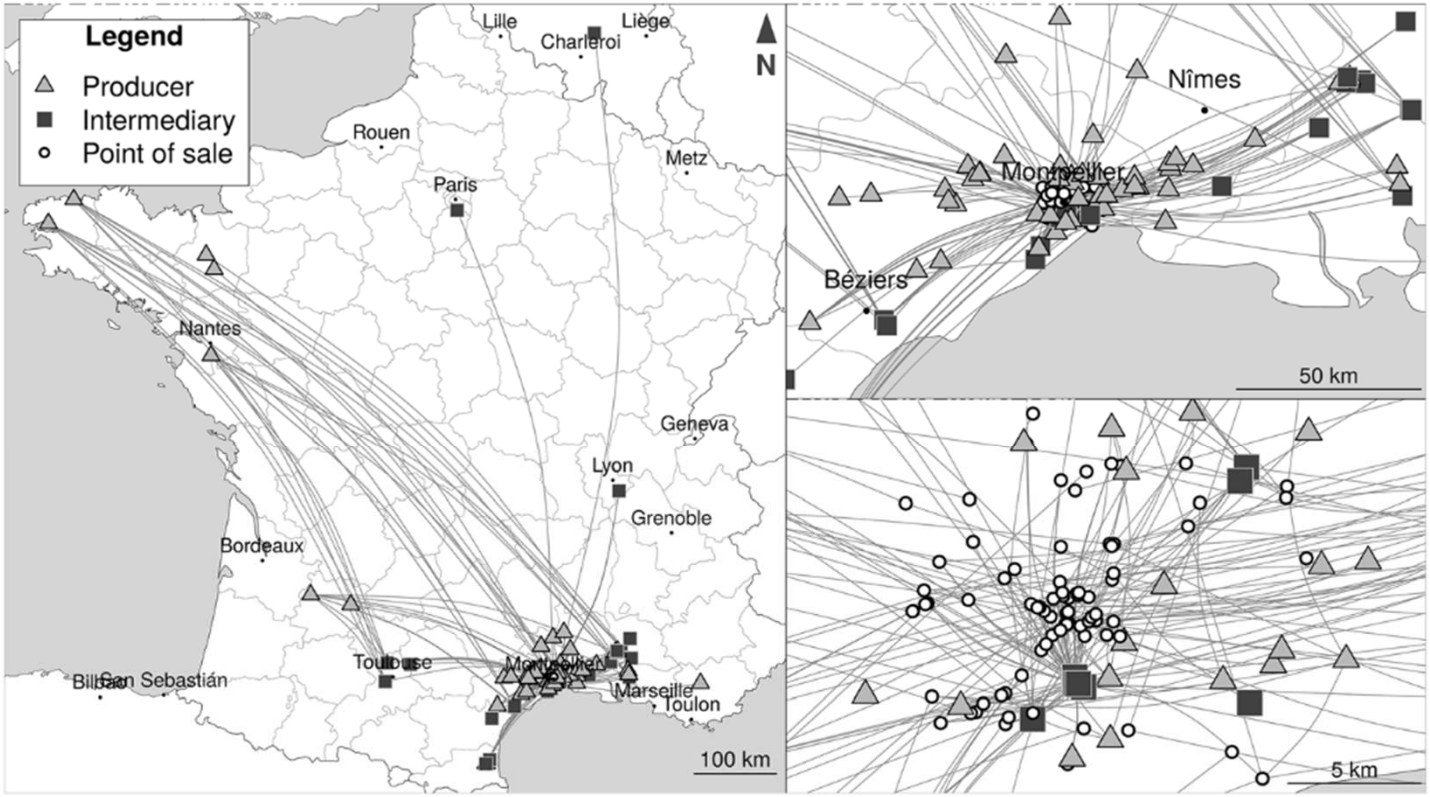
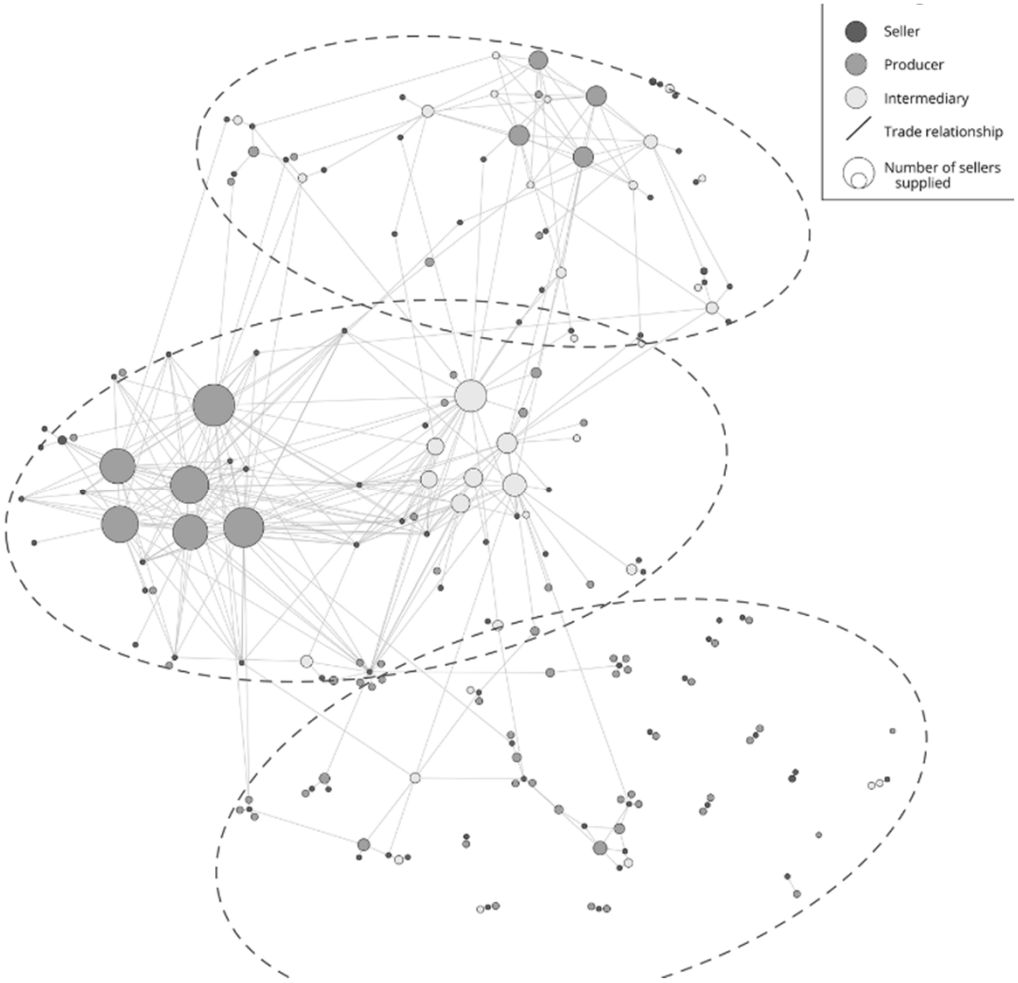


Fig. 4 Flows of in-season tomato supply for Montpellier. Source: IGN (2018) and authors. Realised with igraph 1.2.5, sf 0.9.4 and cartography 2.4.1 R packages

Chiffoleau et al, 2020



Analysis of sub-networks

Chiffoleau et al, 2020

References

FAO, RUAF Foundation & Wilfrid Laurier University, 2018. CITY REGION FOOD SYSTEM TOOLS/EXAMPLES Food for the Cities Programme/RUAF-CityFoodTools Project. https://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/

SHORT FOOD SUPPLY CHAINS FOR PROMOTING LOCAL FOOD ON LOCAL MARKETS, 2020. United Nations Industrial Development Organization, 2020

Chiffoleau et al, 2020. Coexistence of supply chains in a city's food supply: a factor for resilience? Review of Agricultural, Food and Environmental Studies

FAO, 2018. Sustainable food systems.Concept and framework. https://www.fao.org/3/ca2079en/CA2079EN.pdf