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Assessing role of small farms in sustainable Food and Nutrition Security: what to consider at what scale?

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s a l s a
small farms
small food businesses and
sustainable food security

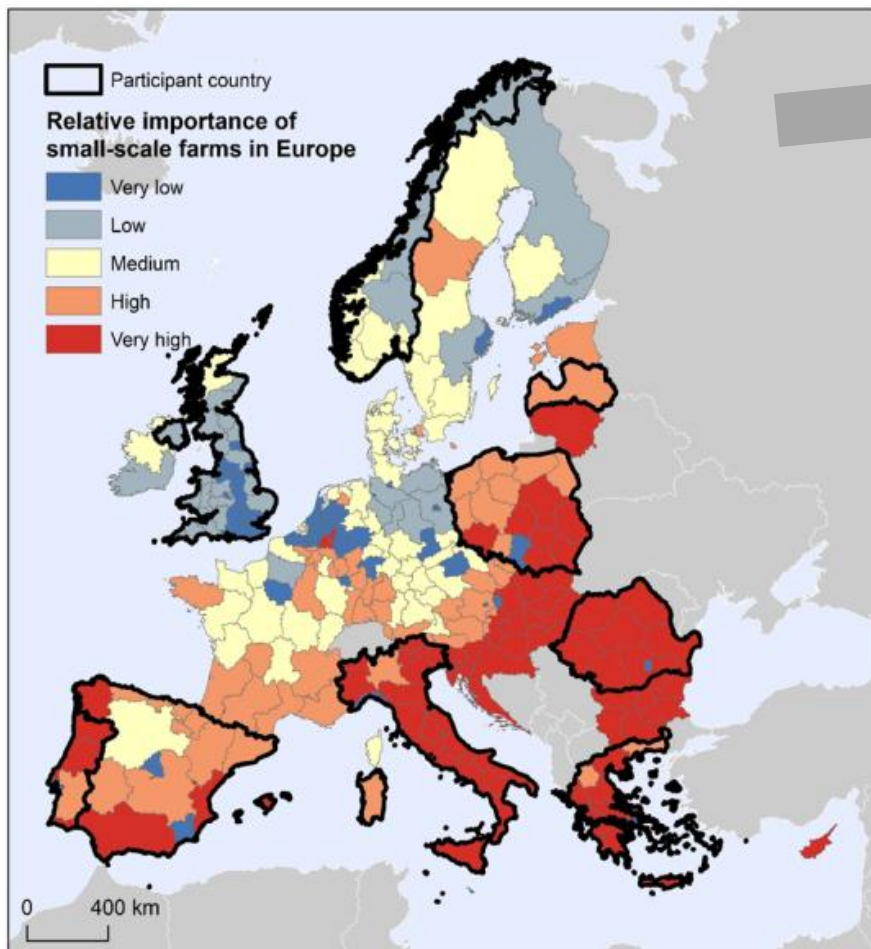
01 Abril 2016 – 31 March 2020

H2020, 2016-2020, 5 M euros

Coordination: ICAAM/UÉvora

17 partners in Europe and in África,

30 reference regions



GOALS:

1. **assess the current role of Small Farms and Small Food Businesses in achieving sustainable Food and Nutrition Security (FNS) in Europe and in selected African regions.**
2. **evaluate the means by which small farms can respond to the expected increase in demand for food, feed and fibre of an increasing population in an resource - constrained world.**

FOOD SYSTEM ACTIVITIES:

PRODUCTION

PROCESSING

DISTRIBUTION

CONSUMPTION

SMALL FARMS & SMALL FOOD BUSINESSES

FOOD SYSTEM OUTCOMES CONTRIBUTING TO:

SOCIAL WELFARE

- *Income*
- *Employment*
- *Wealth*
- *Social & political capital*
- *Human capital*

FOOD & NUTRITION SECURITY

FOOD
ACCESS

FOOD
STABILITY

FOOD
AVAILABILITY

FOOD
UTILISATION

ENVIRONMENTAL SECURITY / NATURAL CAPITAL

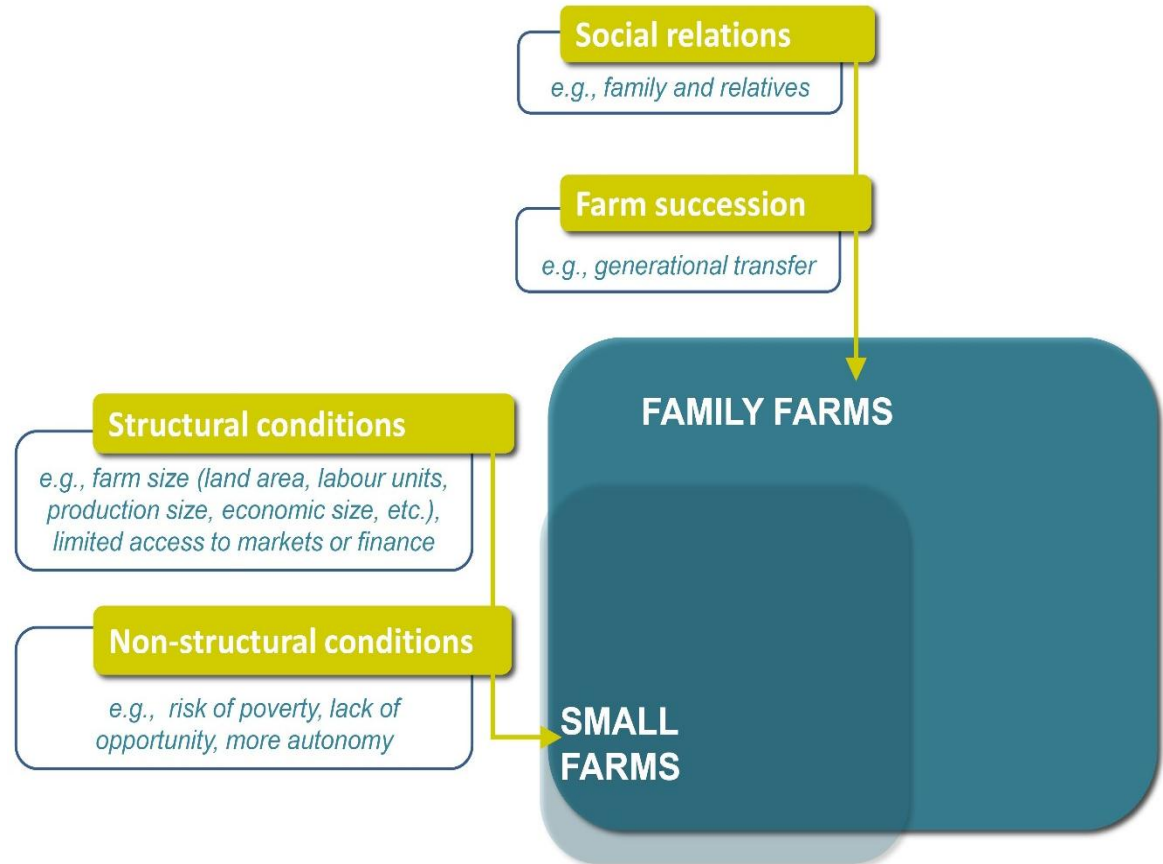
- *Ecosystems stocks, flows*
- *Ecosystem services*
- *Access to natural capital*

Small and family farms: a definition

Large diversity of profiles,
in different regions
of Europe and Africa

in practical terms,
for identification:

less than 5 ha
less than 8 ESU SGM
or €25000 SO



In each reference region

- Identify and characterize the **region-specific components** of food systems
- Identify **key types of small farms** and key livelihood strategies
- Identify regional consumption patterns and trends, and **role of small farms** in satisfying regional consumption

- Assess role of **small food businesses + formal and informal markets** in interplay between production and consumption

A clear goal

»» identify **differentiated consumption models** within the region including small farmers themselves and their household, which may to a large extent depend on their own production

* **differentiate levels of dependency** from own production

we need to go in detail and analyse food sub-systems

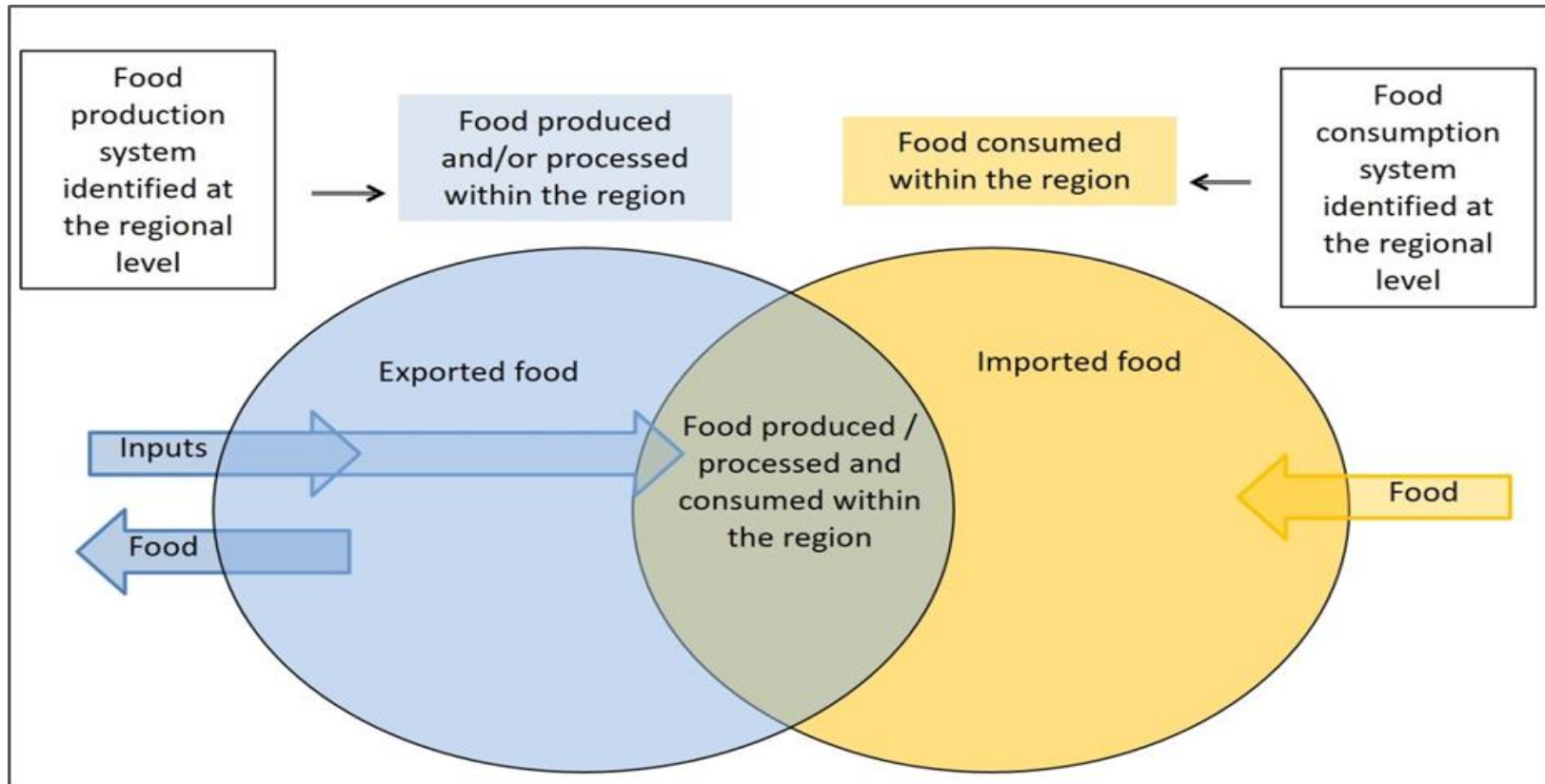


In each reference region:

connections between production and consumption

Production system

Consumption system



(Modified from UNEP 2016)



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In each reference region:

a territorialized food system

the region boundaries define the boundaries of the system

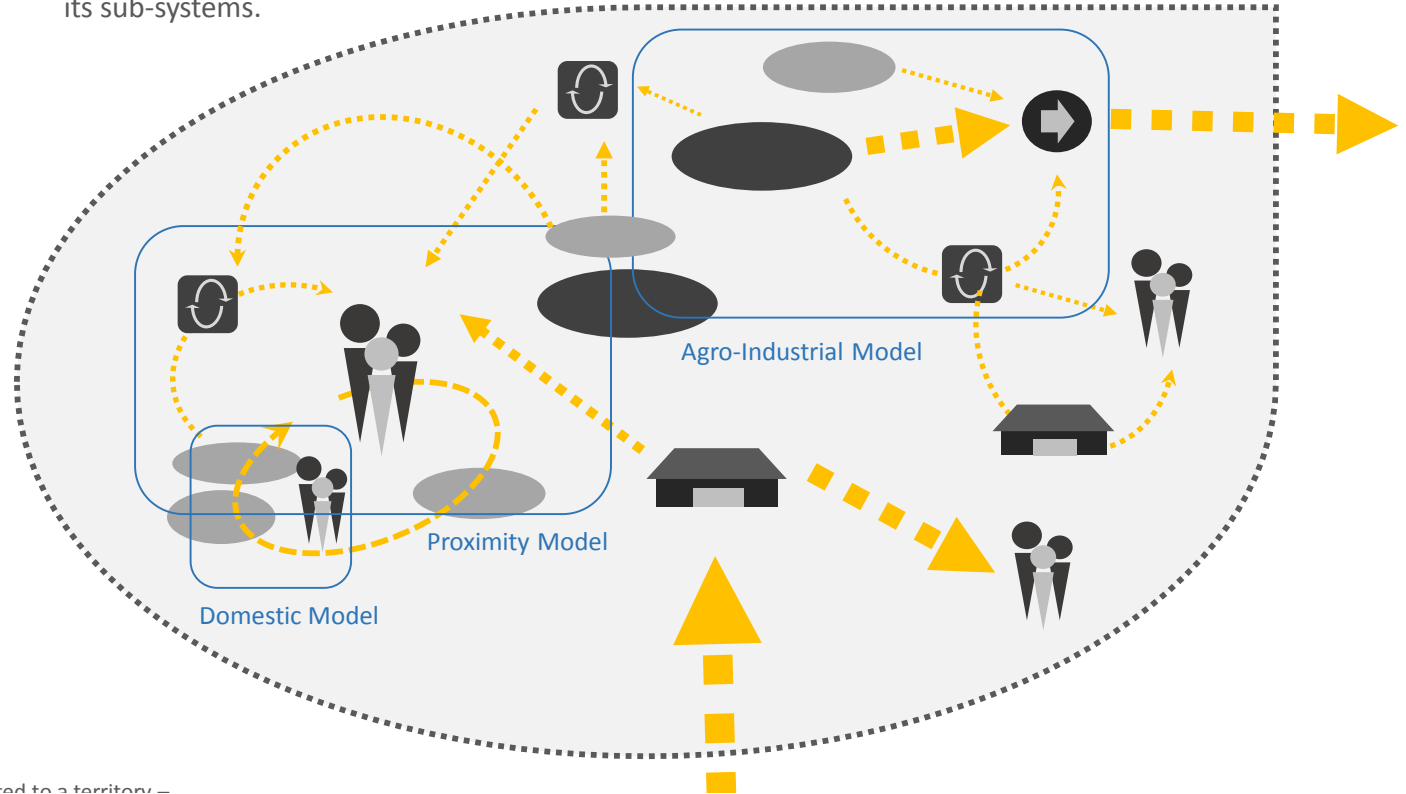
flows of inputs and outputs are assessed but focus remains inside,

so that all connections production-consumption are revealed

Elements and flows of the food system.

- territory
- big farms
- small farms
- processors
- consumers
- retailers
- exporters
- food flows
- Sub system

Example of a food system and its sub-systems.



Within a regional food system – associated to a territory –

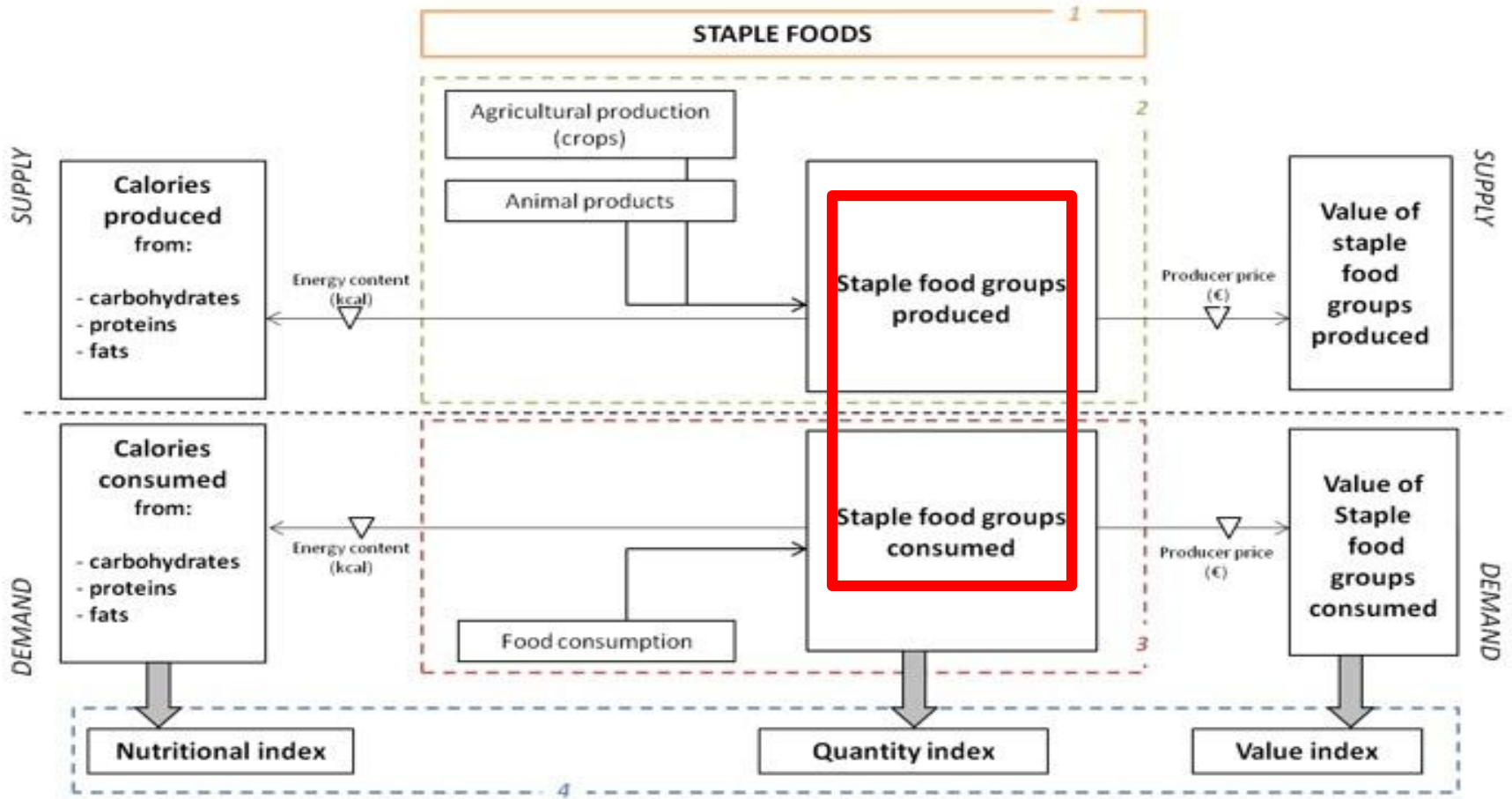
Food Flows and Nodes

Start from consumption »» a particular configuration of food sub-systems corresponding to different consumption models

In order to operationalise assessment,

select a limited number staple foods per region

(Monaco 2015)



Selection different types of food products:

cereals, fruits, vegetables, oil plants, meat, eggs

Conversion to common unit to allow assessment of fluxes and comparison, by type of product (eg.Kcal or J)

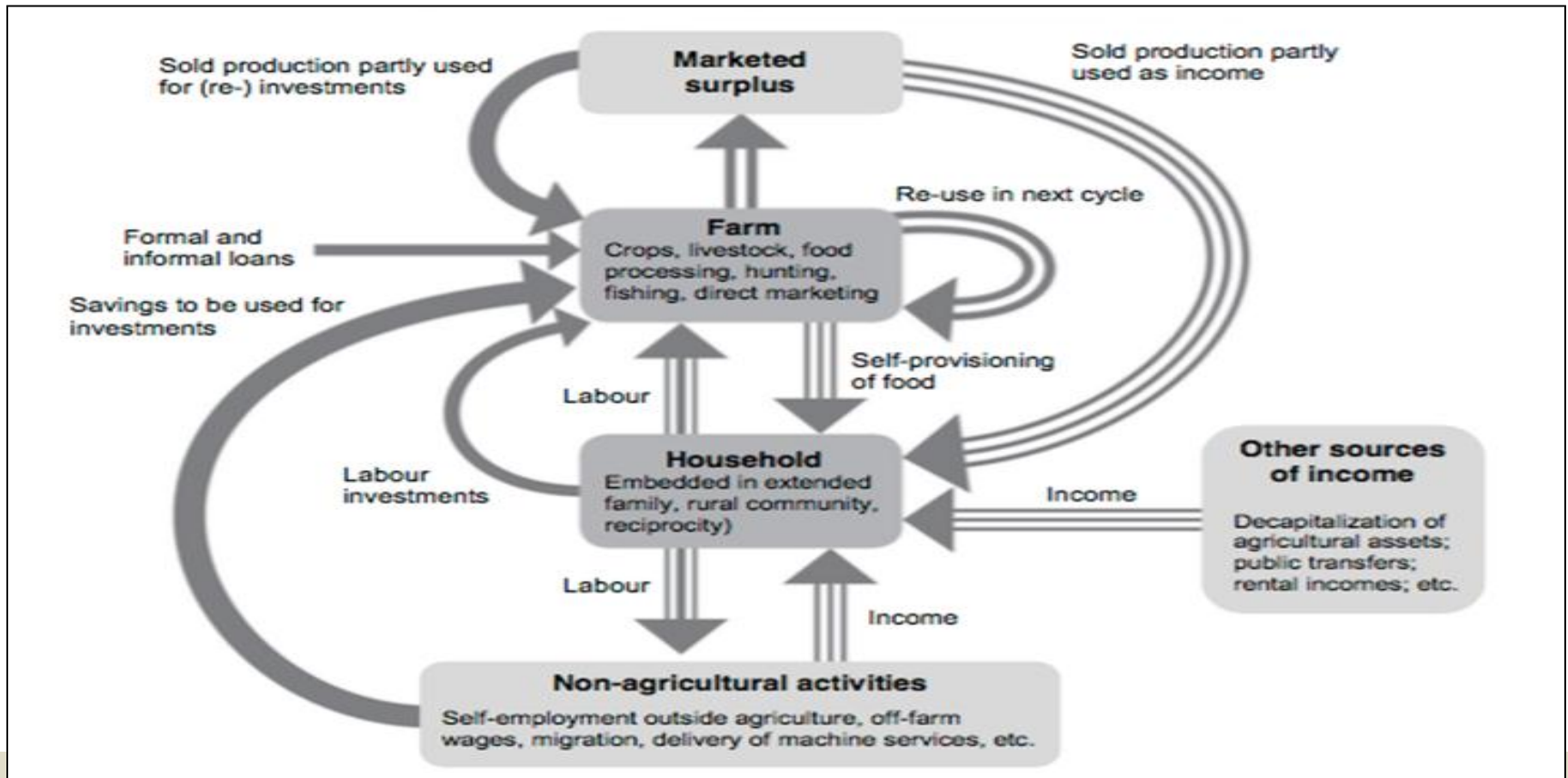
In each reference region:

the role of SF as producer but also as consumer (household)

adopt a systemic approach : actors and relationships,

as well as rationales explaining actors' behaviour

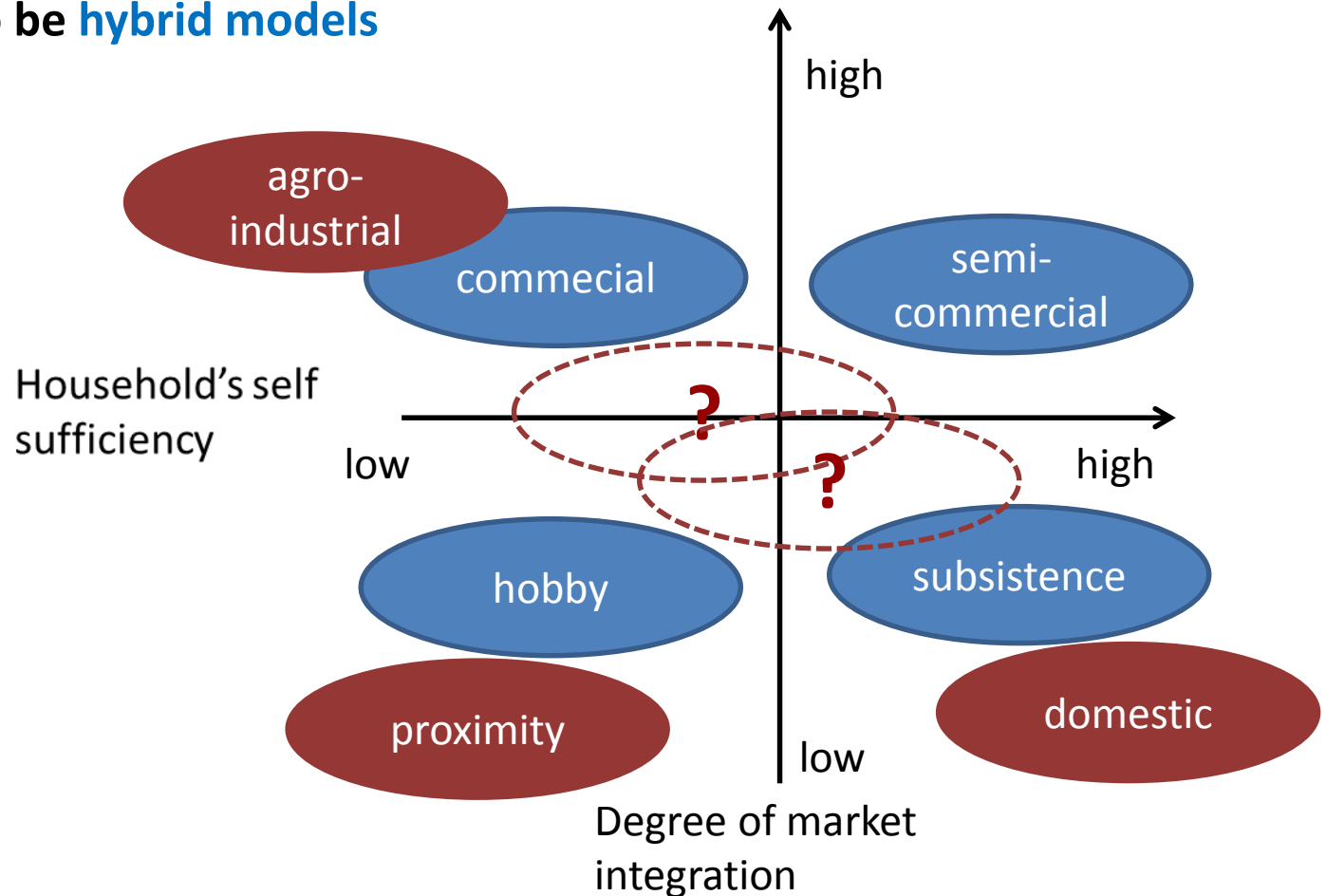
the farm as a complex system, where the household is also considered



Types of small farms:

connection to the market and household self-sufficiency

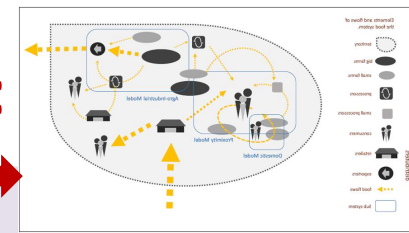
..there may also be hybrid models



Models of consumption

different models with different importance in each consumer and in each region as a whole »»»» **HYBRID MODELS**

Four different and connected levels of analysis:



Regional level (Nuts 3):
food balance and
contribution of small farms
to production

Local level (Nuts 4):
different consumption
models and
their interactions

10 x 10 km Sample:
small farms structure
estimation of
production capacity

Small farms:
strategy and
connections
to retailers,
processors and
consumers

Small businesses:
strategy and
connections
to small farms



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Nuts 3 level: food balance

Total Balance sheet Consumption x Production + share of small farms

EX. Production:

Crops	Area	Average yield	Total production	Conversion rate	Total staple
Flour					
Meat					
Olive oil					
Grapes					
Beef					
Other vegetable fats					
Vegetables					
Fruit					

Consumption based on products and consumption per head (per type of individual) and also converted to staple

Consumption: food habits and estimated average values »»

»» Official population data + EFSA chronic food consumption database

Production: estimated values »» Official statistic data

Small farms share of production: census x estimations of production capacity based on Remote Sensing analysis and modelling »» data collected on sample squares in each region



Nuts 4 level: consumption based food system: different consumption models

- Map of the consumption-centered food system
- Identification of the main consumption patterns: domestic, proximity, agro-industrial...
- Vulnerability analysis of the system



Involving all food system actors (including small businesses):
participatory approach » focus groups

Starting from the consumption side and tracing the flows backwards.
Reconstruct (*pulling the thread*), in each consumption model, for each access modality and each product, the food chains that connects consumers to producers, directly or through processors and retailers »» food sub-systems

Crossing with food flows from small farms and processors and retailers
Identify the nodes of each chain

» Focus on access, stability, availability, utilization »» FNS dimensions



Farm level: linking the farmer to the household

understanding and revealing the farmer strategy

linking the farmer to the food system

Survey: interviews

- * Contribution of small farms to regional food systems
- * Inventory of small farms typologies
- * Description of strategies / pathways
- * Identification of the main SFs contributions to the 4 dimensions sustainable FNS



select farmers in the Nuts 3 region, according to diversity in household consumption and linkage to the market

Farm history, background, objectives, nodal points, plans.

Farm description: productions, connections, markets

Household description, consumption, livelihood strategies

Focus on farms' practices: practices, endowment, processing and transportation

select key informants according to different roles and positions

Policy and regulation + food system governance + changes and trends

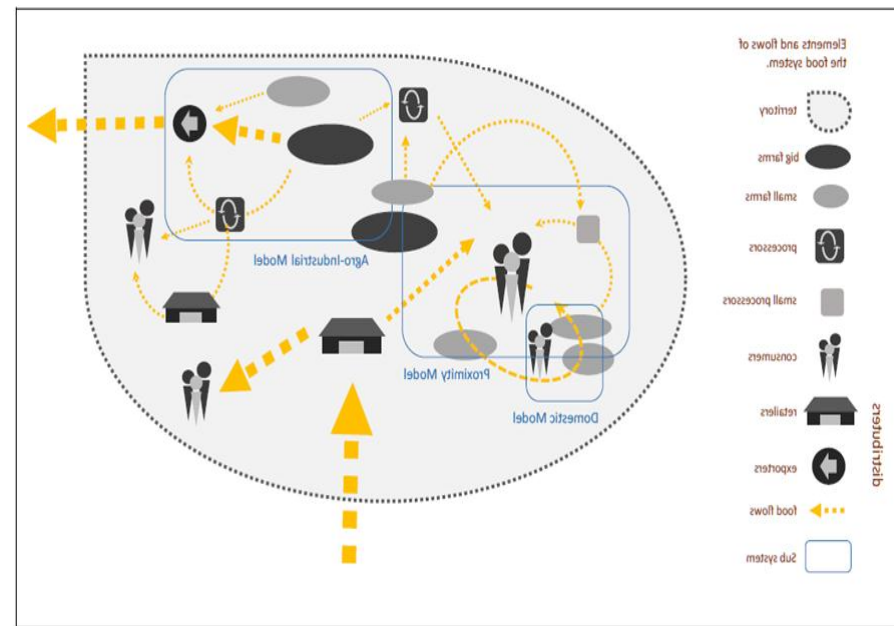
Food system vulnerabilities

+ Participatory workshop to validate and complete the information



Expected outputs

- ▶ 30 food balance sheets
- ▶ 30 food systems and subsystems maps, focus on relations and system functioning, linking consumption models to all other elements of food system
- ▶ Role and positioning of SF in food system
- ▶ Validation of a novel remote sensing approach to assess and monitor small farms and their production
- ▶ Assessments like (EX):
 - ▶ in 1/10 of regions small farms play hardly a role in quantitative terms, but they play a major role in the survival of small farmers households
 - ▶ overall, in our 25 European regions, small farms contributed 1/3 of food consumed
 - ▶ in the 10 other regions the produce from small farms is mainly sold to traders and enters mainstream food processing outside the regions



...any comments are welcome

Thank you!

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