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

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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.
Small Farms, Small Food Businesses and Sustainable Food Security
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 extend dependent on their own production

* differentiate levels of dependency from own production
we need to go in detail and analise food sub-systems
In each reference region: connections between production and consumption

(Modified from UNEP 2016)
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

Food Flows and Nodes
Start from consumption »» a particular configuration of food sub-systems
corresponding to different consumption models
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 (e.g., Kcal or J)

In order to operationalise assessment, select a limited number staple foods per region (Monaco 2015)
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 in also considered

from HLPE 2013
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
Nuts 3 level: food balance

Total Balance sheet Consumption x Production + share of small farms

EX. Production:

<table>
<thead>
<tr>
<th>Crops</th>
<th>Area</th>
<th>Average yield</th>
<th>Total production</th>
<th>Conversion rate</th>
<th>Total staple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Olive oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grapes</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Beef</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other vegetable fats</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Fruit</td>
<td></td>
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</tr>
</tbody>
</table>

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

*C ontribution 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

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 677363.
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

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...any comments are welcome

Thank you!

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