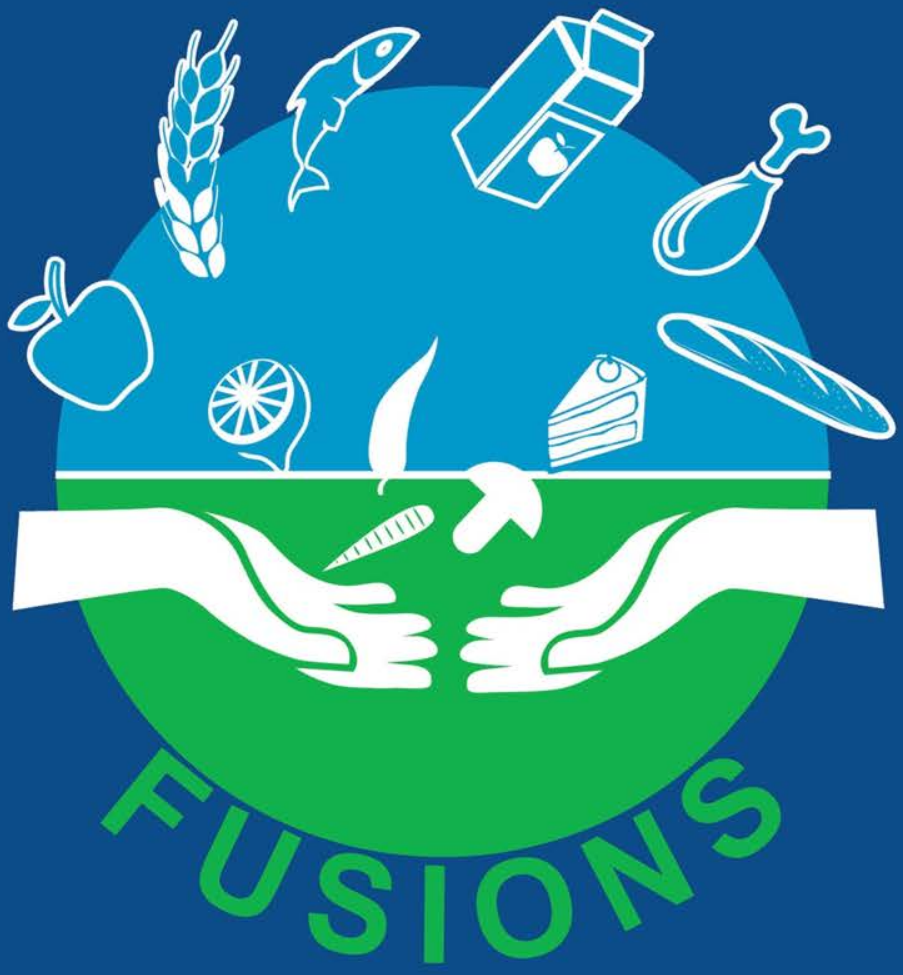


WP1. Reliable data and information sources

WP3. Recommendations for a Common food waste Policy

Massimo Canali (Unibo)

14/03/2014

WP1– General Objectives

- To enable assessment of food waste quantities and trends in food waste prevention and reduction within EU27 through:
  - obtaining reliable data and information sources
  - and developing criteria for food waste monitoring

- To map and model comprehensively the existing trends relevant to social innovations in the food chain

WP1 – Tasks

- Task 1.1 Definitions and study of boundary issues
- Task 1.2 Quantitative techniques, data integrity
- Task 1.3 Food waste drivers in context 
- Task 1.4 Environmental and social impacts of food waste
- Task 1.5 Food waste quantification manual
- Task 1.6 Estimation of EU data on food waste
- Task 1.7 Review and data supply

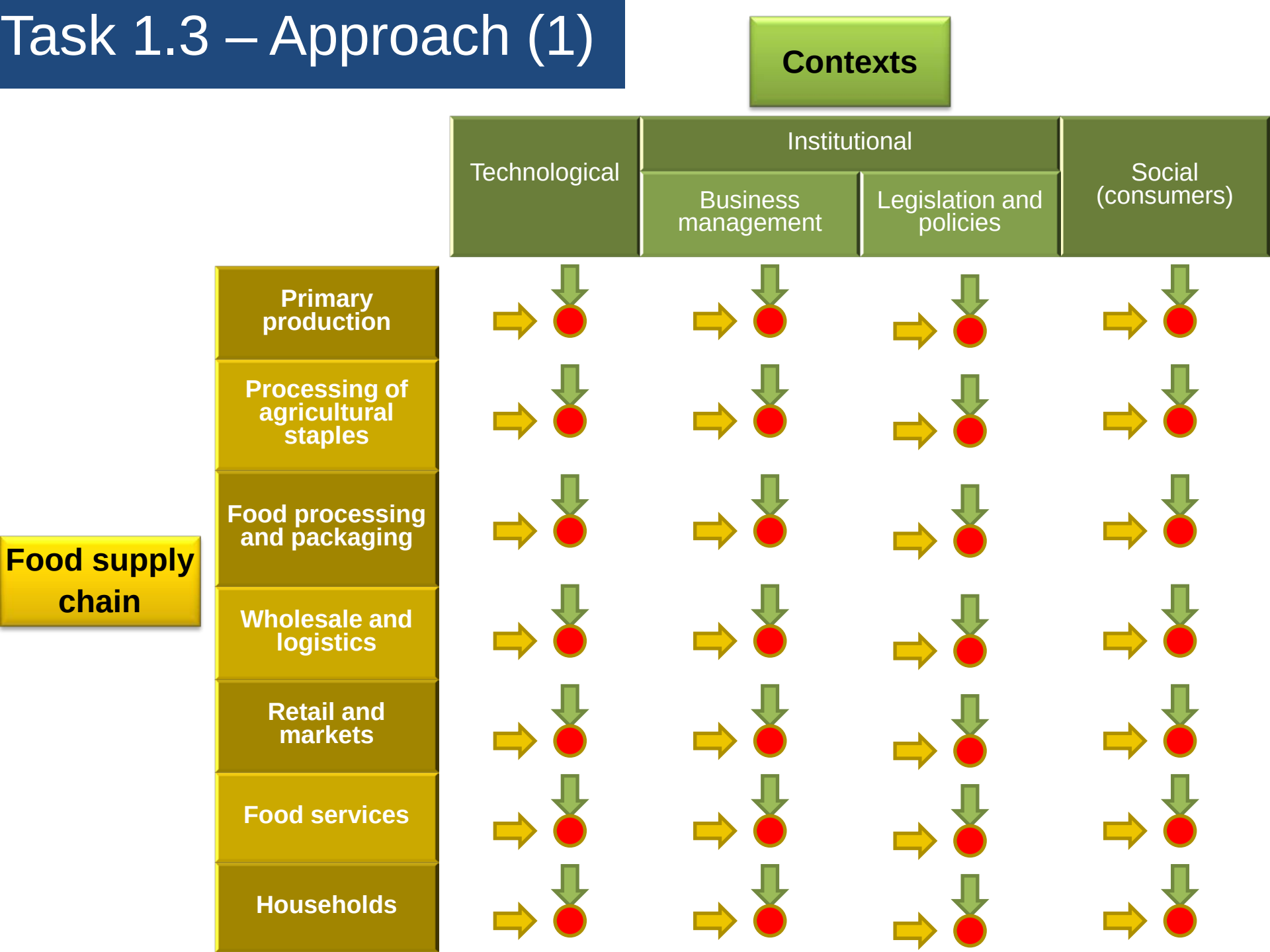
WP1 – Task 1.3 Food waste drivers in context

T3.1 objectives:

- identify the main causes of food waste generation along the food supply chain

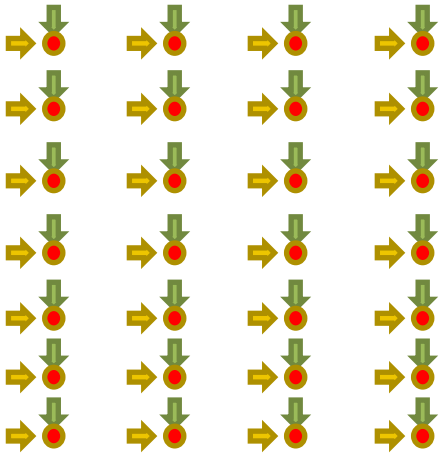
- how current trends in technology, food supply chain management, and consumers' behaviours and lifestyles may increase or reduce food waste in the future

Task 1.3 – Approach (1)

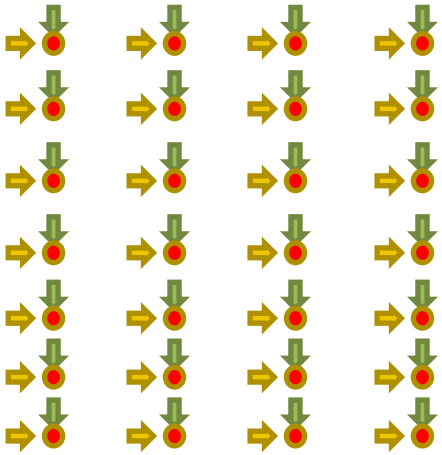


Task 1.3 – Approach (2)

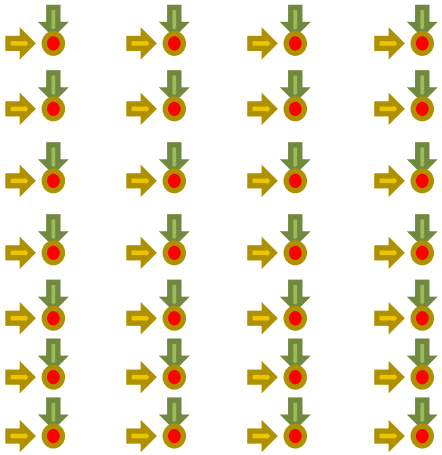
Current causes of food waste



Threats of future increase



Possibilities of reduction



Task 1.3 – Methodology and analysis

INVENTORY of current food waste causes, future threats of increase and possibilities of reduction	Identification of DRIVERS
• distribution of questionnaires to FUSIONS Partners •13 questionnaires filled in • 597 items inventoried from: • 171 bibliographic references • direct experience of respondents	• by food supply chain segment and • by context category (technological, institutional, social): • 105 drivers identified for current food waste causes • 77 drivers identified for future threats of increase • 89 drivers identified for future possibilities of reduction

Example: identified drivers of current food waste causes

Context categories	*Identified drivers of current food waste causes (total 105 drivers)*		
Technological (28 drivers)	Drivers inherent to characteristics of food, and of its production and consumption, where technologies have become limiting	Drivers related to collateral effects of modern technologies	Drivers related to suboptimal use of, and mistakes in the use of food processing technology and chain management
Institutional (business management - 38 drivers)	Drivers not easily addressable by management solutions	Drivers addressable at macro level	Drivers addressable within the business units
Institutional (legislation and policy – 23 drivers)	Agricultural policy and quality standards	Food safety, consumer health, and animal welfare policies	Waste policy, tax, and other legislation
Social (16 drivers)	Drivers related to social trends and dynamics not readily changeable	Drivers related to individual behaviours which are not readily changeable	Drivers related to individual behaviours modifiable through information and increased awareness

Examples of technological drivers of current food waste causes

1 - Drivers inherent to characteristics of food, and of its production and consumption, where technologies have become limiting*	2 - Collateral effects of modern technologies*	3 -Sub-optimal use of, and mistakes in the use of food processing technology and chain management*
•Climatic conditions	•Harvest loss & damage	•Microbiological quality / storage
•Production planning	•Livestock mortality	•Obsolete technology (in processing of farm staple)
•Forecast/Ordering system	•Milk waste caused by drug contamination	•Obsolete technology (in food processing)
•Insufficient product life	•Non selective fishing	•Equipment reliability
	•Improved traceability	•Ease of equipment operation
	•Storage handling and conditions	•Mismarked/mislabelled packaging
	•Damage during transport	•Cold chain inefficiencies
		•Poor management and forecasting
		•Poor handling and storage
		•Unsound packaging (retail)
		•Minimum food safety failures
		•Customer knowledge
		•Storage
		•Equipment and containers
		•Lack of good practice
		•No access to suitable storage systems
		•Insufficient packaging (households)

Examples of institutional drivers (business management) of current food waste causes

1 – Not easily addressed by management solutions	2 – Addressable at macro level	3 – Addressable within the business units
Consumer demand (“cosmetic” fruit standards, scarce use of by-products for cultural reasons)	Government subsidies (favouring production surpluses)	Profitability (non profitability of best practices)
Poverty/starvation (premature harvesting)	Market conditions/market price (price does not cover harvest costs)	Communication (bad information exchange)
Lack of infrastructure and facilities	Access to finance (lock in to existing practices)	Knowledge & communication
Supply and demand forecasting	Government regulations	Profitability (discarding of low value components and by-products)
Marketing strategies and customer demand	EU & national government legislative and taxation policy	Staff training and communication
Customer expectations and demand	Contracts/agreements	Supply chain/cold chain inefficiencies
Deterioration of food (mainly related to characteristics of food products)	Market demand (determining product recalls)	Forecasting of stocking/ordering (mainly related to management inefficiencies)
Forecast/ordering system (mainly related to characteristics of food products)	Rejection of delivery/returns	Deterioration of food, food safety (mainly related to management inefficiencies)
Customer expectations, demand and marketing strategies (mainly related to consumer behaviours)	Cheap price of food	Power and trust, transparency, communication, and information sharing
Difficulty to estimate and calculate the right amount of food to cook (related to consumer preference for wide assortment of products)	Collection infrastructure	Inflexibility in portioning

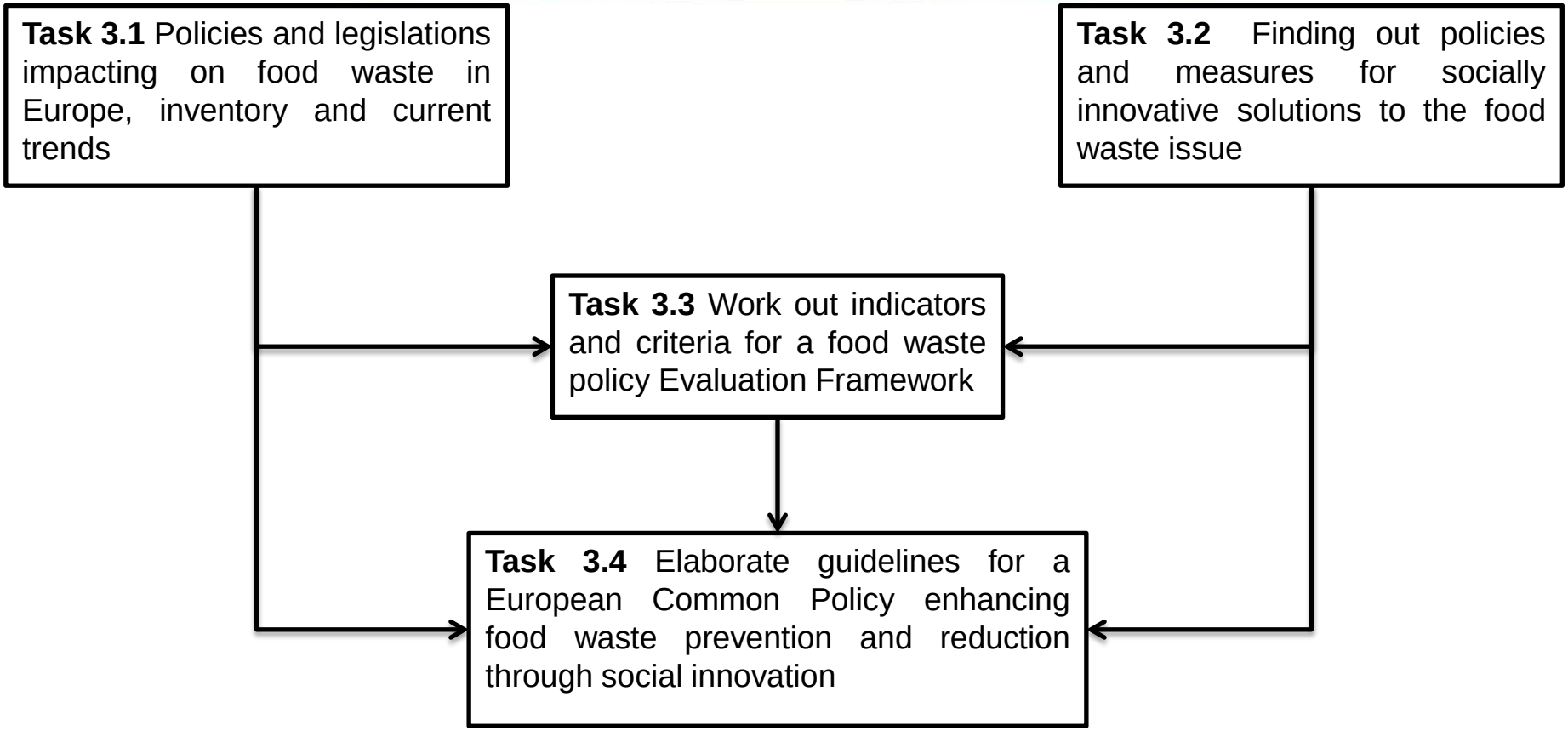
Drivers of food waste and potential intervention

DRIVERS	EXAMPLES	POTENTIAL INTERVENTIONS
Food waste related to the characteristics of food products and the ways through which they have to be produced and consumed	Perishability of food, limited predictability of supply and demand, limited capacity of control on many factors of production that constrains the possibility to adapt quickly the supply to the evolution of demand, limited possibility of consumers to accumulate individual stocks of food, etc.	Mainly technological
Food waste related to social factors and dynamics in population habits and lifestyles non-readily changeable	Single-person households, young age of household members, young couples with small children, increased consumption of meals out-home, etc. These are all factors and long term trends that result positively correlated with food waste generation.	Mainly technological
Food waste related to individual behaviours of consumers non-readily changeable	Consumer preference for good aspect of food, freshness, possibility of acceding to broad quantities and varieties of food independently on places, season, and time, etc. These preferences (unlikely eradicable) determine behaviours in both the consumers and the food supply chain operators that generate wastage.	Technological and behavioural (long term)
Food waste related to other priorities targeted by private and public stakeholders	The possibility of generating food waste may be a minor concern with respect to other priorities of private companies (increase sales, reduce production costs, reduce risk of damage to brand image due to failures in safety or other marketing standards) and of public authorities (legislative provisions improving food safety and security, consumer information, animal welfare, etc.).	Technological and institutional (mainly policy – medium-long term)
Food waste related to inefficiencies	Non use or sub-optimal use of available technologies, organisational inefficiencies of supply chain operators, inefficient legislation, and bad behaviours of consumers depending on unawareness, scarce information, and poor food skills.	Improve efficiency and sustainability in the food supply chain (short-medium term)

WP3 – General Objectives

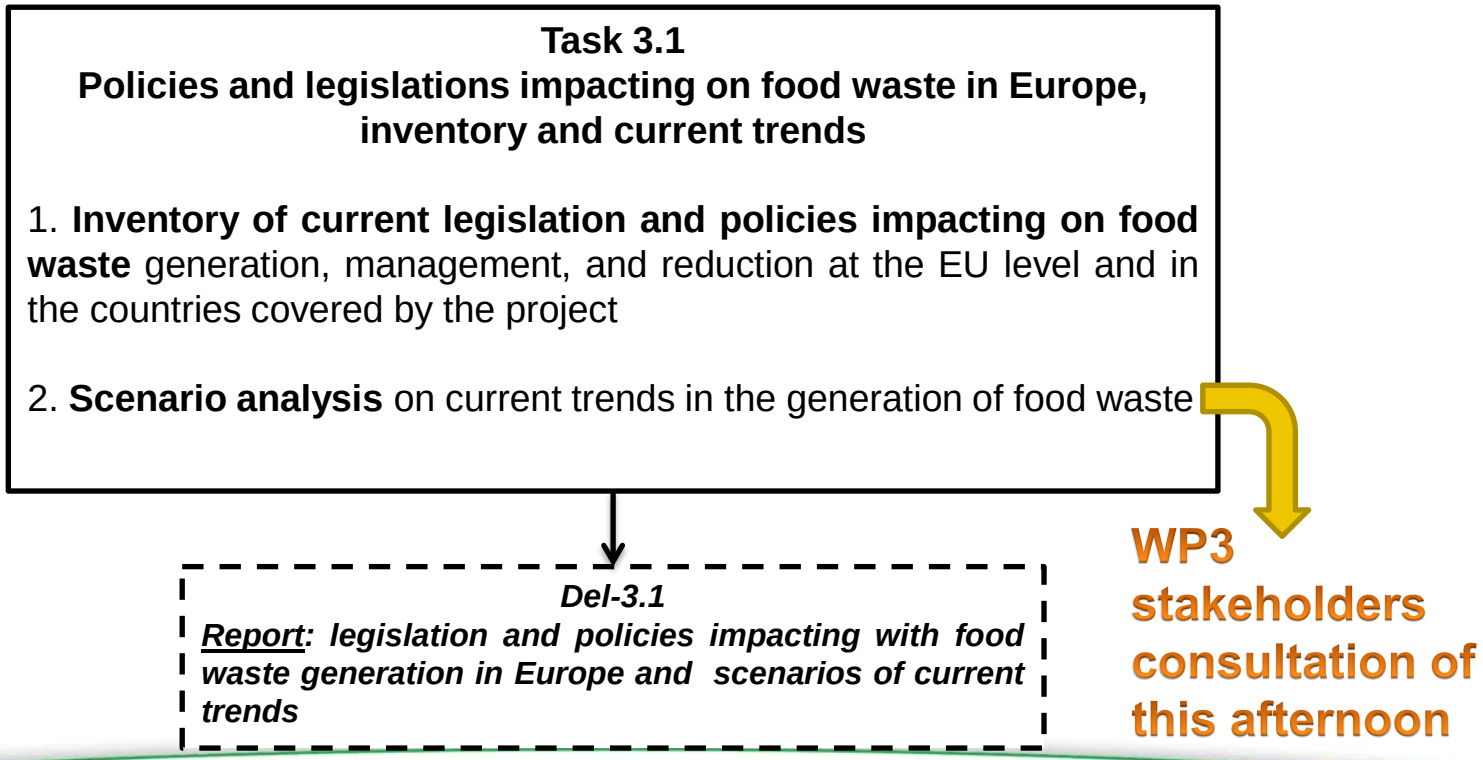
- Contribute to policy making at both the European and Member State levels;
- Address socially innovative solutions optimising food use;
- Find out recommendations for a Common Food Waste Policy in the EU27;

WP3 – Tasks, deliverables, and timing



WP3 – T3.1 Inventory of policies and legislation

Objective: Comprehensively **mapping and analysing the current legislation and policies** which impact on the creation of food waste in the EU/EEA countries and **evaluating the main trends** of food waste generation;



WP3 – T3.1.1 Inventory of current legislation and policies impacting on food waste (achievements)

Main Achievements so far:

- **Literature review** (304 references) identifying legislation impacting on food waste generation at European and national level;

- **Database of European legislation** Classification by type of document (Regulations, Directives, Communications, Resolutions, etc.), EU classification headings of legislation, type of implications for food waste, food supply chain segment involved, and literature sources.

- **Database of national legislation** (provisional). Classification by country, subject of legislation, type of implications for food waste, food supply chain segment involved, and literature sources.

WP3 – T3.1.1 Inventory of current legislation and policies impacting on food waste (activities)

Main Activities:

- Setting procedure and form for the Inventory;
- Distribution among the Contributing Partners of the publications recorded in the FUSIONS Literature Database including:
  - identification of the duplicated references within the Database
  - allocation of publication proportional to Partners' workload)
- 304 publications (out of which 302 listed in the Fusions Literature Database) were analysed;
- Information found in the examined publications were collected and uploaded into the FUSIONS Share Point;
- Information was homogenized and merged it into a single excel file database for analysis;
- For the European Legislation a recognition and integration of the legislation in force was made

WP3 – T3.1.1 Inventory of current legislation and policies impacting on food waste (results)

Analysis of European legislation

52 publications dealing with or citing European legislation found in 304 references.

39 legislation acts + 1 EU Parliament Resolution= Totally, 40 European legislation acts in force were found, of which according to the examined publications:

- **24 Acts imply or potentially imply food waste generation**
- **8 Acts are addressed to food waste management**
- **8 Acts are actively addressed to food waste management**

Legislation implying or potentially implying food waste generation

Subject of legislation	*n.*
food and feed safety*	9
fishery	6
marketing standards	2
animal health and welfare	1
energy from renew. sources (biofuels)	1
environment action	1
labelling	1
packaging	1
phytosanitary measures	1
waste	1
total acts	***24***

Regulations	19
Directives	4
Decisions	1
total acts	***24***

Next steps:
- **Have those laws a real impact on food waste?**
- **Can those laws be modified?**

*including food hygiene, contaminants in food, novel food, and encephalopathitis

WP3 – T3.2 Social innovation policies

Task 3.2
Policies for socially innovative solutions to the food waste issue

1. Exploring the potential of market based instruments and other socio-economic incentives to prevent and reduce the creation of food waste in the food-supply chain, and especially in the retail and food services sectors, and in the households

2. Organising a **Social Innovation Camp** on the food waste issue to present the Feasibility Studies of socially innovative solutions selected by the FUSIONS Project and discuss the potential of social innovation for food waste policies

3. Working out a theoretical and operational frame for an improved legislation able to tackle the food waste problem by promoting social inventiveness

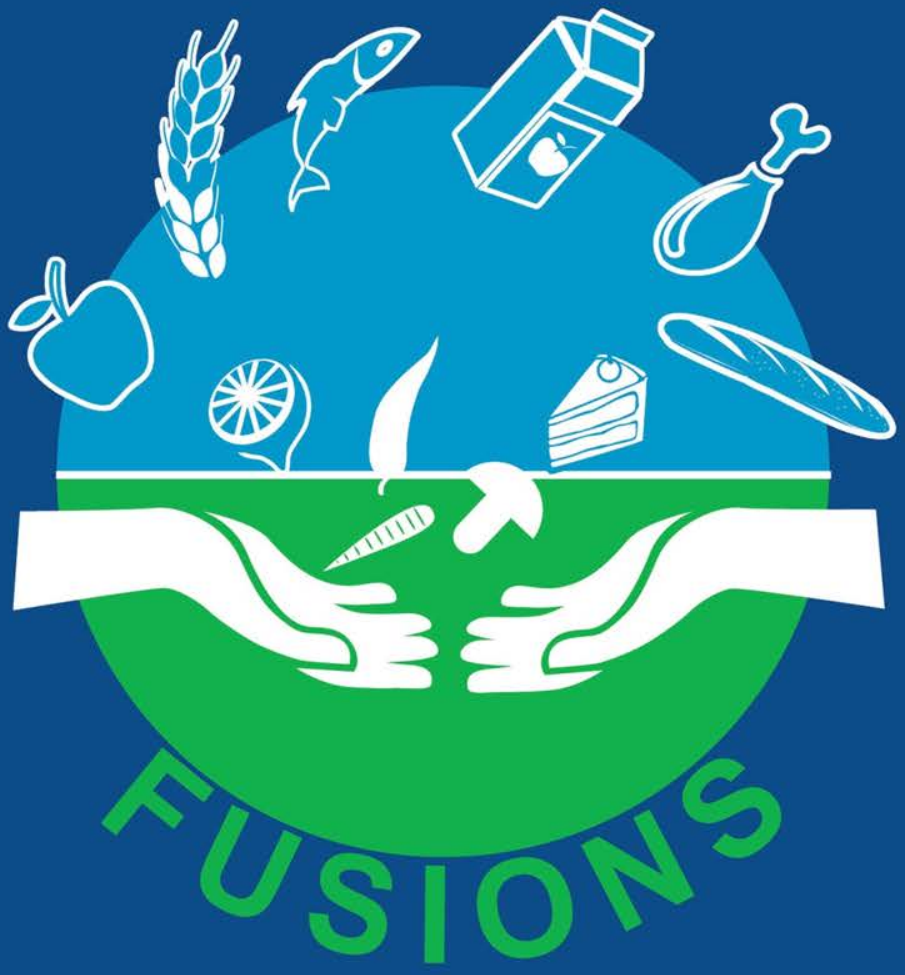
→ **in BOLOGNA the next 8th April 2014**

FUSIONS SOCIAL CAMP

SOCIAL INNOVATION FOR FOOD WASTE PREVENTION AND REDUCTION

8th April 2014

Accademia delle Scienze – Bologna



Reducing food waste through social innovation