



QUESA

International Conference

Quantification of Ecological *Services* for Sustainable Agriculture

Roma/FAO, Italy
12st December 2016



Register at <https://goo.gl/forms/qGDkCOOJnwCD7z182>



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Purpose and scope

Nature can provide a multitude of hidden benefits to humans such as control of crop pests by their natural enemies, crop pollination and prevention of soil erosion that keeps rivers clean. These are known as ecological services (ecosystem services) and are worth billions of euros every year in each European country. Semi-natural habitats on farmland support these services by providing resources for service providers such as natural enemies and pollinators. Through their structure they also directly support other ecosystem services, shaping our perceptions of landscapes and sequestering carbon.



The QuESSA project aimed to quantify the key semi-natural habitats (SNH) providing these essential ecosystem services (ES) across economically important cropping systems, farming intensities and four European agro-climatic zones.

This was achieved in QuESSA by bringing together 14 European research, education and extension organisations, a European stakeholder advisory board and 16 local stakeholder groups to contribute to regional case studies.

The first task was to characterise the vegetation and link this with their traits that support ES so that the potential of the main SNH on farmed land to deliver ES could be estimated. Actual ES provision was then measured in 16 case studies across 8 countries. The ES investigated included control of crop pests by natural enemies, crop pollination, soil erosion, weed control and landscape aesthetics whilst also addressing possible disservices. The non-monetary value of the selected ES to local stakeholders was also determined.



Data have been used to develop mathematical models for mapping ecosystem services at multiple levels of scale: from farm to the whole EU. Models have also been used to explore synergies and trade-offs among ES by SNH from habitat to landscape scale and identify unused opportunities to better exploit ES. Investigations of private and public economic benefits, and non-monetary value of selected ES have been conducted.

The research has been targeted at the requirements of local and national stakeholders and provides valuable outputs that can be used to improve ES provision from SNH.

Practical guidelines and policy recommendations have also been produced.

Monday 12th December 2016

08.00 Registration

09.00 Welcome

09.15 What are ecosystem services? Keynote lecture
Flavio Coturni – Directorate-General for Agriculture and Rural Development

9.45 Linking Agroecology and Ecosystem approaches: FAO's experience, Challenges and Opportunities
Caterina Batello – Food and Agriculture Organization of the United Nations

10.00 The QUESSA project: Approach and methods, main conclusions
John Holland – Game & Wildlife Conservation Trust

10.15 Coffee

10.45 – 12.30 **Session 1: Measurement of Ecological Services**

Chairman: *Felix Herzog – Agroscope*

Potential ecosystem services in semi-natural habitats

- Presentation of the scoring system for pollination and pest control *Gionata Bocci – Scuola Superiore Sant'Anna di Pisa*

Ecosystem services in field crops

- Measurement of the predation: *Philippe Jeanneret et Louis Sutter – Agroscope*
- Can sentinel systems be used to measure ES: *Niamh McHugh – Game & Wildlife Conservation Trust*
- Pollination deficit study? *James Cresswell – University of Exeter*
- Synergistic interactions of pollination and pest control services: *Matthias Albrecht – Agroscope*
- Landscape aesthetics as another important ecosystem service: *Beatrice Schüpbach – Agroscope*

11.50 – 12.00 Discussion

Can we map ecological services?

- Mapping pest control ("Heat maps"): *Marjolein Lof and Wopke van der Werf – University of Wageningen*
- Mapping pollination: *James Cresswell & David Wallis – University of Exeter*
- Upscaling at European level: *Maria-Luisa Paracchini & Carlo Rega – Joint Research Center*

12.30 Discussion

12.40 **Lunch**



14.00 – 15.00

Session 2: Management and effects of Semi-Natural Habitats

Chairman: *Philippe Pointereau - Solagro*

Multifunctionality of SNH?

- *Willemien Geertsema – Wageningen University & Research*

Global approach

- Synergies and trade-offs of ecological services: *Seleshi Yalew – Wageningen University & Research*
- Farmers' perception of ecosystem services: *Camilla Moonen – Scuola Superiore Sant'Anna di Pisa*

Results of case studies in brief

- Pollination and biological control of aphids on pumpkin in Germany: *Sonja Pfister - University of Koblenz-Landau*
- Decrease of vineyard pest abundances in France is influenced by landscape diversity and semi-natural habitats. : *Brice Giffard – Bordeaux Sciences-Agro*
- Biological control of fruit fly on olive in Italy : *Malayka Picchi - Scuola Superiore Sant'Anna di Pisa*
- Pollination and biological control of pollen beetle on oilseed rape in Switzerland: *Louis Sutter - Agroscope*
- Biological control (parasitoids) of pollen beetle on oilseed rape in Estonia: *Eve Veromann – Estonian University of Life Sciences*
- Biological control of cereal leaf beetle group on winter wheat in Hungary: *Márk Szalai - Szent István University*
- Carbon storage in arable landscapes in the United Kingdom: *John Holland – Game & Wildlife Conservation Trust*
- Biological control of pear psylla in pear orchards in the Netherlands: *Herman Helsen – Wageningen Plant Research*

15.00 – 15.30

General discussion

15.30 – 16.00

Session 3: Recommendations

Chairman: *Jean-Michel Terres - Joint Research Center*

- Recommendations for farmers, advisors and trainers: *Caroline Gibert - SOLAGRO*
- Recommendations from policy makers: *Amanda del Rio – Fundación Global Nature, Simon Duffield – Natural England*
- FAO partnerships with academia for Sustainable Food systems: *Kakoli Ghosh, FAO - Partnerships Unit*

16.00 – 16.30

General discussion

16.30

Closing remarks

17.00

End of the conference



General Information

Meeting venue

Viale delle Terme di Caracalla
00153 Rome, Italy
Tél.: (+39) 06 57051

Arrivals & departures

Hourly train connection with the Airport.

Accommodation

Hotels will have to be booked directly by the participants.

Language

The working language will be English.
Conference documentations will be available in English.

Registration fee

Free

Registration

Please complete the Conference Registration form on
<https://goo.gl/forms/qGdkCOOJnwCD7z182>

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