



Quantification of ecological services for sustainable agriculture

7th Framework Programme Theme KBBE.2012.1.2-02

Managing semi-natural habitats and on-farm biodiversity to optimise ecological services

Collaborative Project

Deliverable D5.6

Final symposium with stakeholders



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement N° 311879

This deliverable relates to Task 5.1 Promotion and communication of the project

- Task 5.1.5 Final symposium

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Executive Summary

A conference was held on at headquarters of Food & Agriculture Organisation (FAO) in Rome, Italy. The meeting was attended by partners of the QuESSA project, members of the QuESSA Stakeholder Advisory Board, FAO, invited policy makers from the partner countries and other interested parties. On the following day a technical meeting was held with FAO staff to further discuss the projects outcomes and knowledge transfer process. The welcoming address was given by Hans Marin Dryer of FAO followed by a keynote address on Ecosystem Services by Lukäs Vísek from DG Agriculture & Rural Environment. Caterrina Batello presented FAO's role in linking agroecology and ecosystem services. A total of 21 presentations were then given by QuESSA partners. The final session focussed on recommendations with speakers from QuESSA, SAB and FAO, followed by a general discussion.

List of Attendees for QuESSA Final Conference

NAME	ORGANISATION
ADEM ESMAIL	UNIVERSITY OF TRENTO
M. ALBRECHT	AGROSCOPE
D. ANTICHI	UNIVERSITY OF PISA - CIRAA
S. ATTWOOD	BIODIVERSITU INTERNATIONAL
F. BADENES-PÉREZ	INSTITUTE OF AGRICULTURAL SCIENCES
C. BATELLO	FAO
G. BOCCI	SCUOLA SUPERIORE SANT'ANNA
J. CRESSWELL	UNIVERSITY OF EXETER
J. DOMINGO	FUNDACION GLOBAL NATURE
S. DUFFIELD	NATURAL ENGLAND
M. ENTLING	UNIVERSITÄT KOBLENZ-LANDAU
W. GEERTSEMA	WAGENINGEN UNIVERSITY
C. GIBERT	SOLAGRO
B. GIFFARD	BORDEAUX SCIENCES AGRO
K. GHOSH	FAO
M. GREEN	NATURAL ENGLAND
H. HELSEN	WAGENINGEN PLANT RESEARCH
F. HERZOG	AGROSCOPE
J. HOLLAND	GAME & WILDLIFE CONSERVATION TRUST
P. JEANNERET	AGROSCOPE
J. KISS	SZENT ISTVAN UNIVERSITY
V. KOVACEVIC	EUROPEAN COMMISSION
G. KOVACS	ESTONIAN UNIVERSITY OF LIFE SCIENCES
M. LOF	WAGENINGEN UNIVERSITY
A. MAHECHA	TECHNISCHE UNIVERSITÄT MÜNCHEN
S. MARINI	SCUOLA SUPERIORE SANT'ANNA
N. McHUGH	GAME & WILDLIFE CONSERVATION TRUST
S. MOLLER	FAO
C. MOONEN	SCUOLA SUPERIORE SANT'ANNA
R. PÄÄDAM	MINISTRY OF RURAL AFFAIRS
R. PAPP	HUNGARIAN RESEARCH INSTITUTE OF ORGANIC AGRICULTURE
M. PARACCHINI	JOINT RESEARCH CENTRE
D. PERDIKIS	AGRICULTURE UNIVERSITY OF ATHENS
S. PFISTER	UNIVERSITÄT KOBLENZ-LANDAU
M. PICCHI	SSSA

P. POINTEREAU	SOLAGRO
C. REGA	JOINT RESEARCH CENTRE
B. SCHERF	FAO
B. SCHÜPBACH	AGROSCOPE
L. SIGSGAARD	UNIVERSITY OF COPENHAGEN
J. STAFFORD	GAME & WILDLIFE CONSERVATION TRUST
L. SUTTER	AGROSCOPE
M. SZALAI	SZENT ISTVAN UNIVERSITY
J-M. TERRES	EC-JRC
M-F. TODESCHIN	TUM
J-L. TOULLEC	MINISTÈRE DE L'AGRICULTURE
A. TURETTA	EMBRAPA
W. VAN DER WERF	WAGENINGEN UNIVERSITY
E. VEROMANN	ESTONIAN UNIVERSITY OF LIFE SCIENCES
L. VISEK	EUPEAN COMMISSION
F. WARLOP	RESEARCH GROUP FOR ORGANIC FARMING
S. YALEW	WAGENINGEN UNIVERSITY



QuESSA

International Conference

**Quantification
of Ecological Services
for Sustainable Agriculture**

**Roma/FAO, Italy
12th December 2016**



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



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement N° 311879

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
Hans Martin Dreyer – Food and Agriculture Organization of the United Nations

09.15 What are ecosystem services? Keynote lecture
Lukáš Všítek – 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"): *Marjolain 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 Centre*

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 Moanen – 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 Torres - Joint Research Centre*

- Recommendations for farmers, advisors and trainers: *Caroline Gibert - SOLAGRO*
- Recommendations from policy makers: *Amanda del Rio – Fundación Global Nature, Simon Duffield – Natural England & Simon Attwood – Bioversity International*
- 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
Tel.: (+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/qGDkCO0JrwCD7z182>

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Quantification of Ecological Services for Sustainable Agriculture

Roma /FAO, Italy

13th December 2016 – 9h30 -12h00

Technical meeting QuESSA partners - FAO

Attendees

Members of FAO and members of QuESSA projects

Objective

The objective of this ½ day technical meeting is to take time for information and discussion focused on agroecology and ecosystems services between the partners of the QuESSA research project and the researchers of FAO.

- How ecological services could be delivered on the ground?
- How to mobilize the knowledge and the skills of the farmers?
- Which contribution to strengthen engagement and action or an integrated approach to sustainable food production and agriculture?
- What should be the priorities for the research (landscape design, approaches integrating socio-economic, measurement of ecological services, ...)?
- What are the priorities for dissemination?

Round of introductions (name, institution). The Quessa researchers have presented themselves during the Conference and the introduction can be short. The FAO researchers should elaborate a little bit on their work and their R&D interests.

Round table 1 : Feedback on the QuESSA results from FAO researchers

- Was there any surprising result or anything disappointing?
- What are the most important learnings and how can the QuESSA results translate to work of FAO?
- How to inform and motivate farmers to utilise ecosystem services, experiences of QuESSA researchers and FAO?

Round table 2 : Future collaboration?

- Are there any practical recommendations from QuESSA which can directly be implemented in FAO study regions?
- Is there a prospect for future collaboration between QuESSA and FAO researchers;

List of Attendees for Technical session

NAME	ORGANISATION
M. ALBRECHT	AGROSCOPE
D. ANTICHI	UNIVERSITY OF PISA - CIRAA
C. BATELLO	FAO
R. BAUMUNG	FAO
T. CALLES	FAO
J. CRESSWELL	UNIVERSITY OF EXETER
M. ENTLING	UNIVERSITÄT KOBLENZ-LANDAU
L. GARRETT	FAO
C. GIBERT	SOLAGRO
K. GHOSH	FAO
T. HAFER	FAO
H. HELSEN	WAGENINGEN PLANT RESEARCH
J. HOLLAND	GAME & WILDLIFE CONSERVATION TRUST
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C. LEFTER	FAO
D. LUCHOM	FAO
C. MOONEN	SCUOLA SUPERIORE SANT'ANNA
S. PFISTER	UNIVERSITÄT KOBLENZ-LANDAU
M. PICCHI	SSSA
P. POINTEREAU	SOLAGRO
B. SCHÜPBACH	AGROSCOPE
L. SUTTER	AGROSCOPE
F. TEILLARD	FAO

W. VAN DER WERF	WAGENINGEN UNIVERSITY
E. VEROMANN	ESTONIAN UNIVERSITY OF LIFE SCIENCES