

BPA.Eco - Identification of good agricultural practices promoting ecosystem services

A research project to identify good practices that have the biggest impact on ecosystem services and biodiversity in different farming systems.

EAFRD-funded projects

Location: Évora, Portugal

Programming period: 2014-2020

Measures: M20 - Technical assistance

Funding:

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Timeframe: 2019 to 2021

Project promoter: ANPOC (FENAREG, COTR and IPBeja)

Email: geral@anpoc.pt

Website: bpaeco.com

Summary

The notion of agricultural management to enhance ecosystem services is relatively new for many land managers and may vary significantly between agroecological systems. Hence, it was important to understand which types of practices make sense based on the local context. This project set out to systematise and define concepts within the Portuguese context, identify typical Portuguese Ecological Focus Areas (EFAs) and understand how they correlate with different farming types and how they influence biodiversity.

Project results

The overall conclusion of this research is that the installation of landscape features, even those that are simple and easy to implement, have a very positive impact on ecosystem services and biodiversity. The higher the level of farm intensification, the greater the impact of the good practice measures.

Lessons & Recommendations

Without being aware of it, many farmers already implement simple and inexpensive good practices that have a positive impact on the provision of ecosystem services. This means that, with the right support, simple and inexpensive actions may contribute to an important change in the way ecosystem services are perceived and promoted as well as how good practices are conducted.

Context

Ecosystem services provided by agricultural land in different locations and under different forms of management vary. The terminology is generally not fully understood by land managers and some basic concepts aren't quite standardised or consolidated. Moreover, the available information or recommendations may not apply to Portuguese agriculture, or a Mediterranean agrosilvopastoral system.

Hence, practices to promote ecosystem services needed to be understood in terms of what made sense within the local context: by systematising and defining concepts, identifying typical Portuguese Ecological Focus Areas (EFAs) and understanding how they correlate with different farming types and how they influence biodiversity. It was of the utmost importance to involve public authorities in this matter.

Objectives

The project encompassed a comprehensive set of objectives. Besides comparing the impact of good agricultural practices in different farm typologies, the objectives included: standardisation of concepts related to ecosystem services in relation to local agricultural systems; definition of good agricultural practices and an evaluation of their costs and benefits; identification of public policy measures that could help to promote the adoption of best practices; and finally, dissemination of these good practices.

Activities

The project was financed by the technical assistance budget of the 2014-2020 Portuguese (mainland) Rural Development Programme. The project activities were managed by the project leader - the National Association of Cereal Producers (ANPOC) - together with the Polytechnic Institute of Beja (IPBeja), the National Federation of Irrigators (FENAREG) and the Irrigation Operation and Technology Centre (COTR), with assistance from CONSULAI, a farming consultancy firm. Throughout the project, other partners contributed their specific expertise.



Five farms were studied and classified in terms of their EFAs. For each farm, two scenarios were built: (i) one 'starting point' scenario, based on their current practices and subsequent impact on the identified EFAs; and (ii) a 'good practices' scenario, based on a simulation where new landscape features and their ecological impact were introduced to improve the ecological performance of those farms without compromising their production capacity. The five farms were chosen to represent five types of agricultural systems following an increasing intensification gradient: 1. extensive farming with high livestock rate, 2. intensive farming with no livestock, 3. extensive farming with low livestock rate, 4. intensive farming with high livestock rate, and 5. conservation farming.

This double/cross comparison (i.e. between farm types and 'starting point' vs. 'good practice' scenarios) allowed the project partners to identify the practices that more significantly enhanced ecosystem services and biodiversity for each production system type.

1. Standardisation and consolidation of concepts.
 - > Benchmarking, technical meetings.
 - > Organisation of a focus group.
2. Definition of good practices and development of a matrix of good practices.
 - > Benchmarking, technical meetings.
 - > Overall discussion and technical visits.
3. Cost/benefit evaluation of good practices.
 - > Economic and financial analysis.
 - > Environmental and social impact assessment.
 - > Technical meetings.
4. Comparison of different farming systems and preparation of a comparative dashboard.
 - > Farm typification.
 - > Ecosystem services evaluation for each farm type.
 - > Comparative analysis.
5. Identification of relevant public policy measures.
 - > Public measures identification.
 - > Public measures definition, including cost/benefit evaluation.
 - > Organisation of a focus group.
6. Dissemination of information via a project website and technical brochures.
 - > Outputs creation: project manual, dynamic dashboards, good practices brochure, project video (last-minute output) (ANPOC and CONSULAI).
 - > Project website - www.bpaeco.com (ANPOC and CONSULAI).

7. Knowledge transfer via final colloquium and organised field days.
 - > The 1st field day was held on 08/07/2021.
 - > The 2nd field day and final colloquium were held on 17/09/2021.

Main results

The overall conclusion of this research is that the installation of landscape features, even simple ones and those easier to implement, have a very positive impact on ecosystem services and biodiversity. The higher the level of farm intensification, the greater the impact of the good practice measures.

Another important result of the project was the opportunity to influence Portuguese public policy. Some of the measures identified were taken into consideration in the Portuguese CAP Strategic Plan.

The project results are extensive and dynamic. Detailed information is presented on the project's website (<https://www.bpaeco.com/resultados>).

Key lessons

It was interesting to find out that many farmers, even experienced ones, already implement good practices but are not aware of it, nor are they aware of the impact those good practices have on the provision of ecosystem services. Also, the simplicity of some good practices really stood out, evidencing that a lot can be done without significant effort or investment. This leads to the conclusion that simple and inexpensive public measures may contribute to an important change in the way ecosystem services are perceived and good practices are conducted.

“The simple implementation of a pollinators band had a major effect on the farm biodiversity. We consistently invest in practices/structures that enhance biodiversity. Our farm proves that sustainable intensification is possible.”

Participant farmer practicing intensive farming with high livestock rate

Additional information:

n/a



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