EcoChestnut Learning Model: A Complex and Adaptive System and Process of Change

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INTRODUCTION

EcoChestnut project offers an innovative vocational training process to support the development of organic chestnut production in Europe. Its main output is an online comprehensive and tailored training course on organic chestnuts farming and products manufacturing.

Why do we want to teach about chestnut production? Chestnut cultivation has a long history worldwide but specially in Europe. Spain, Portugal, Greece, Italy and France are in the **top 10 producing countries worldwide** from 1961-2019. Spain was the 2nd worldwide chestnut producer in 2019 only beaten by China with a total of 188,930 tons. However, even though chestnut **production is constantly growing**, the **economic benefits are still small**, because sometimes the chestnut is not even collected. Moreover, chestnut production is usually associated to rural areas with low population density which are disappearing mostly because of **rural exodus**.

Production/yield quantities of chestnut in world
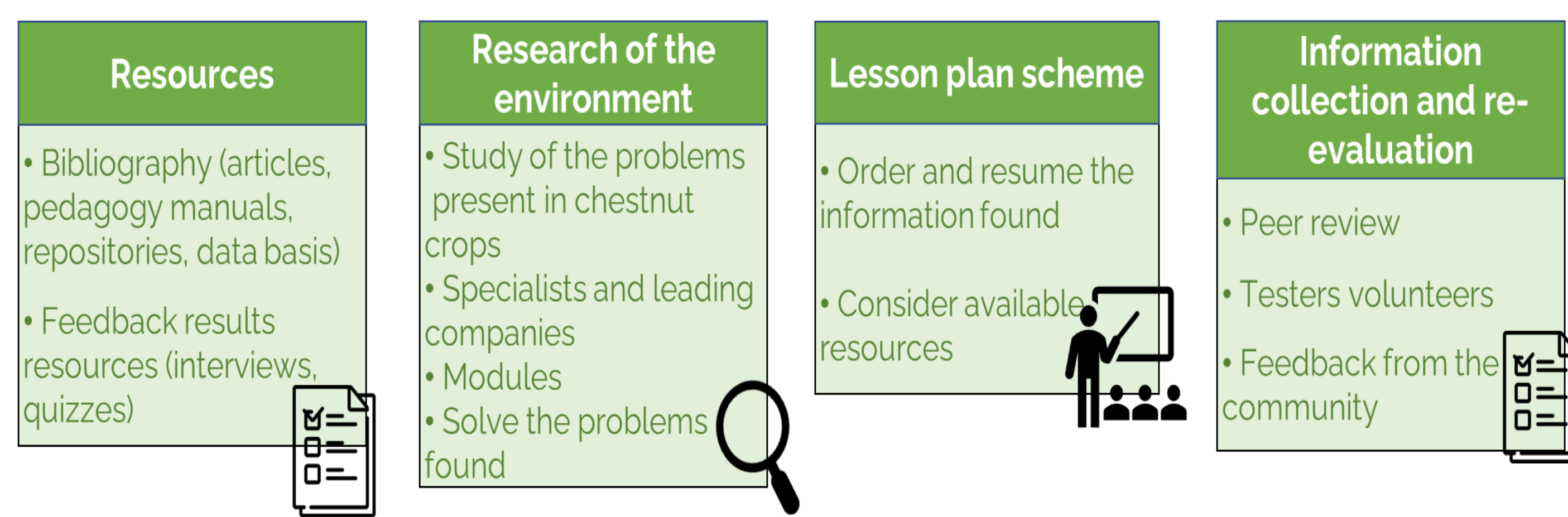

Area harvested
Area harvested
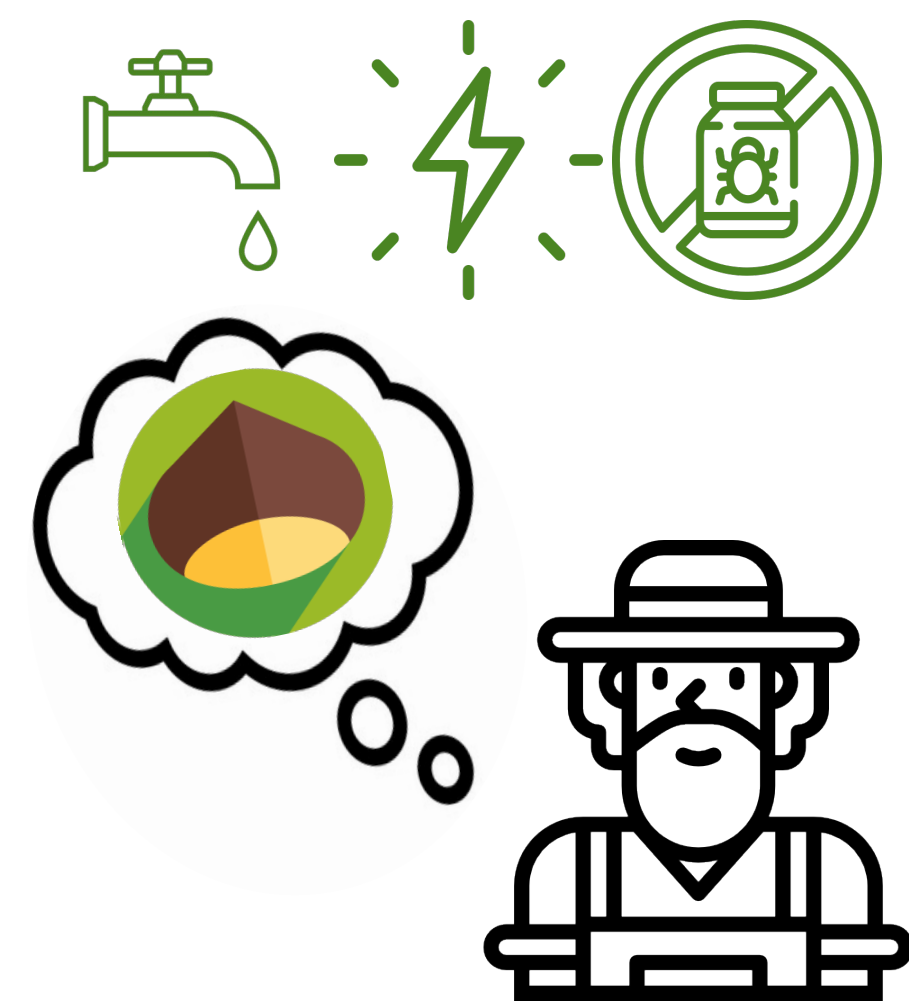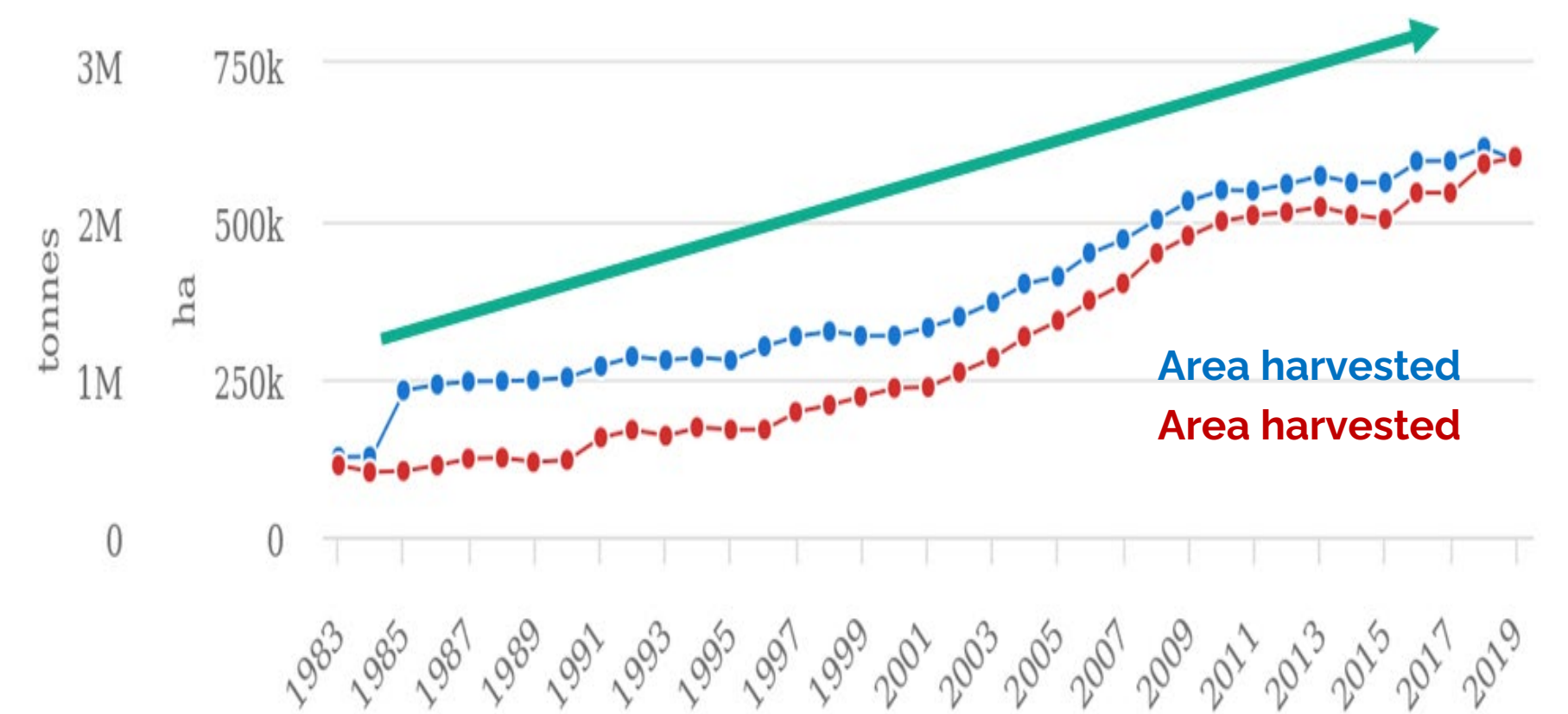
Conventional and Organic Chestnuts Corps
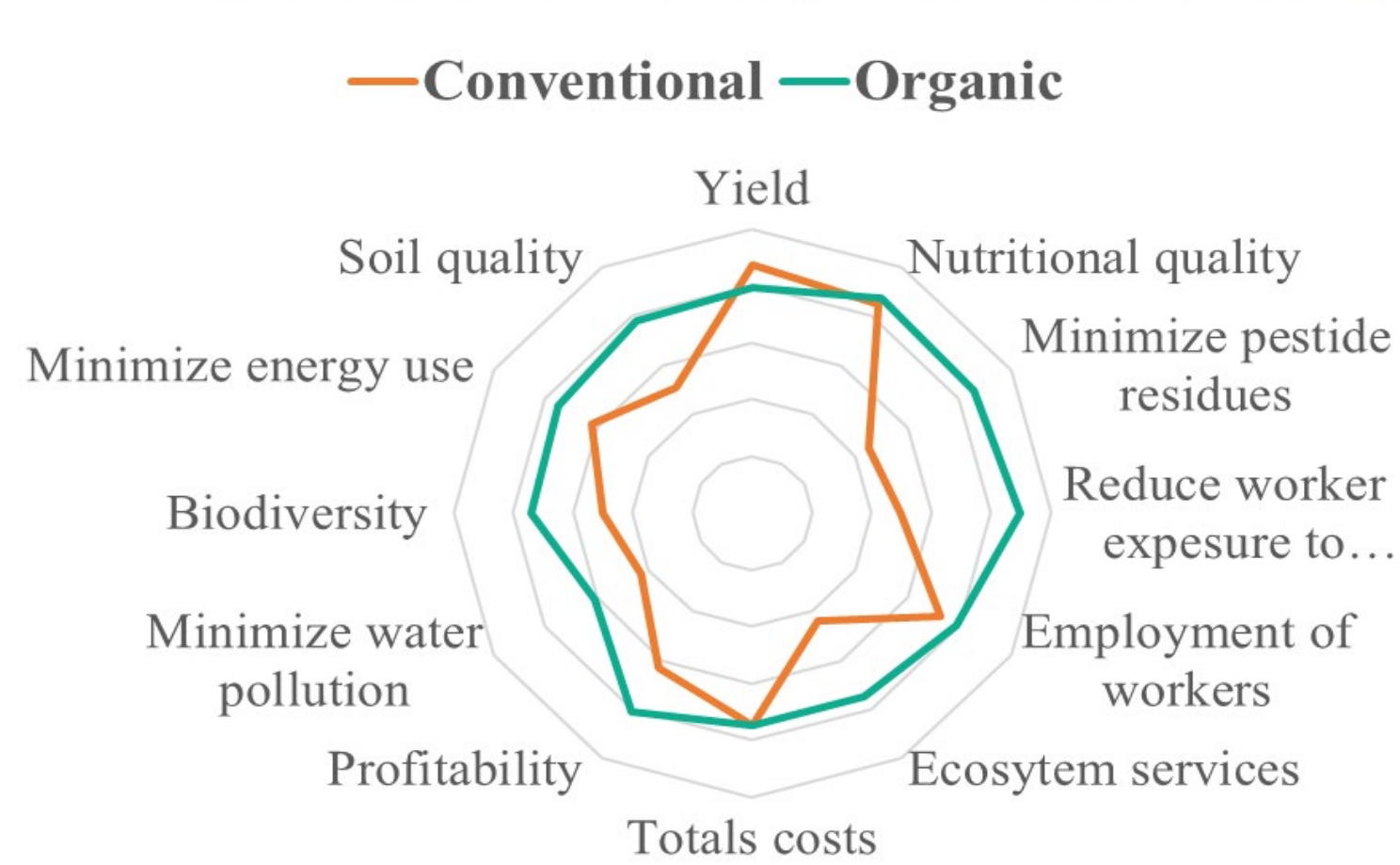
On the other hand, since the 70s, organic farming has been growing. Nevertheless, still are some companies that opt for continuous **industrial producing methods** that use pesticides and chemical compounds that are **harmful to health and the environment**. This refusal to change their cultivation methods is promoted for the lower yield obtained in organic crops. Nonetheless, some studies have shown that **organic farming** could be more economically profitable than the conventional agriculture. Organic agriculture is better from many points of view: **low energy** and **water requirements**, **minimized pesticides** use and residues and **generation of employment**. Moreover, optimal cultivation of the product, up-to-date production methods and socioeconomic factors must also be considered.

MATERIALS AND METHODS

Resources
• Bibliography (articles, pedagogy manuals, repositories, data basis)
• Feedback results resources (interviews, quizzes)

Research of the environment
• Study of the problems present in chestnut crops
• Specialists and leading companies
• Modules
• Solve the problems found

Lesson plan scheme
• Order and resume the information found
• Consider available resources

Information collection and re-evaluation
• Peer review
• Testers volunteers
• Feedback from the community

1. **Materials or Resources**: For the continuous evaluation of the Model and given the current situation of COVID-19 pandemic, the project suffered a rapid virtualization, so ICT resources were employed.
2. **Research of the environment** : it was performed a study of the problems of chestnut crops and how experimented farmers deal with them. Then, they were divided into different modules to solve the problems.
3. **Lesson Plan Scheme**: Initially, the conditioned dimension of the project was to decide how big was the project going to be considering available resources.
4. **Information collection and re-evaluation**: A revision of the adjustment of the course to the Learning Model will be performed. The course will be tested with some volunteers to check the proposed tools and accessibility.

RESULTS AND DISCUSSION

Web page

LINK

Facebook

LINK
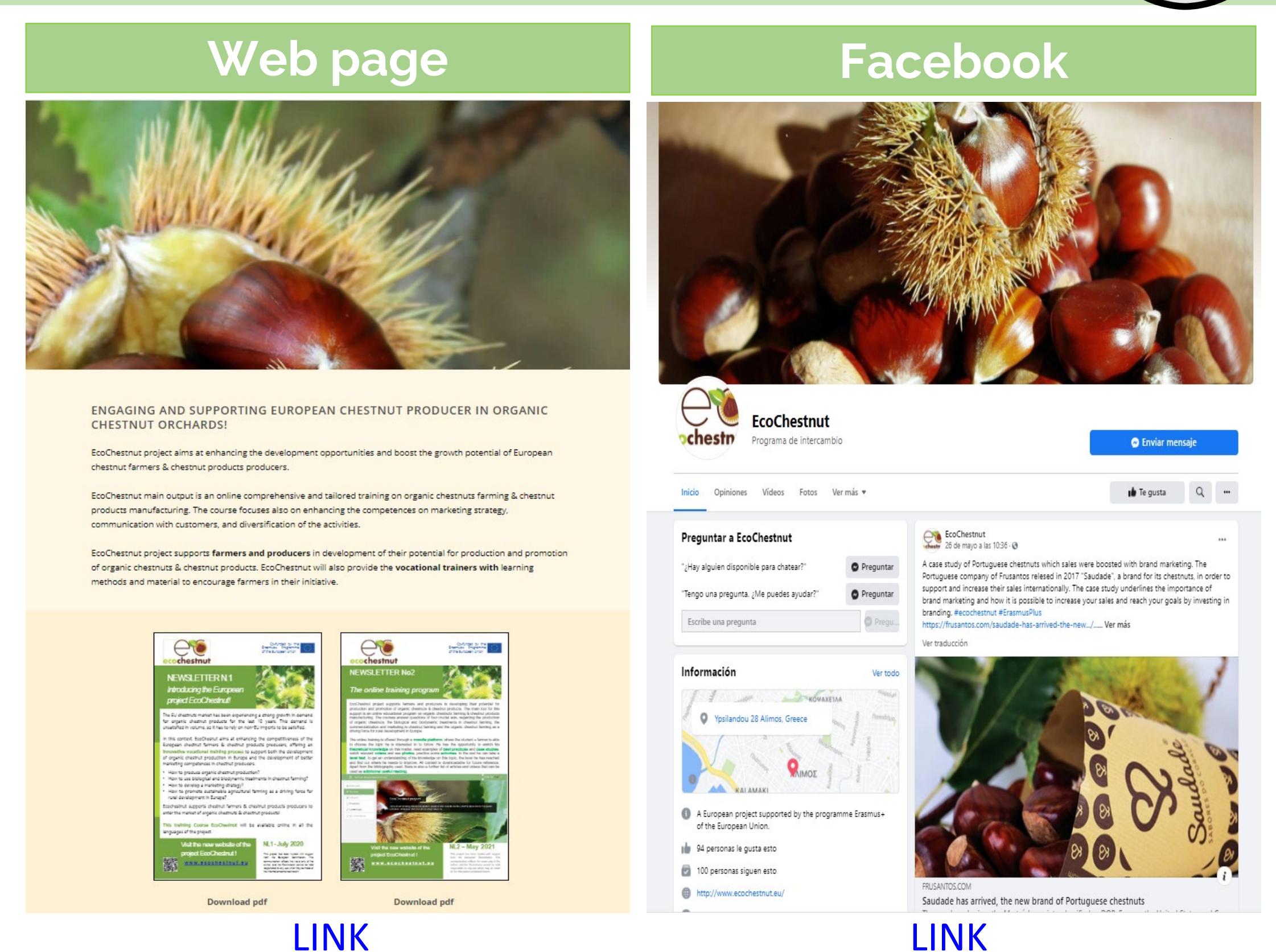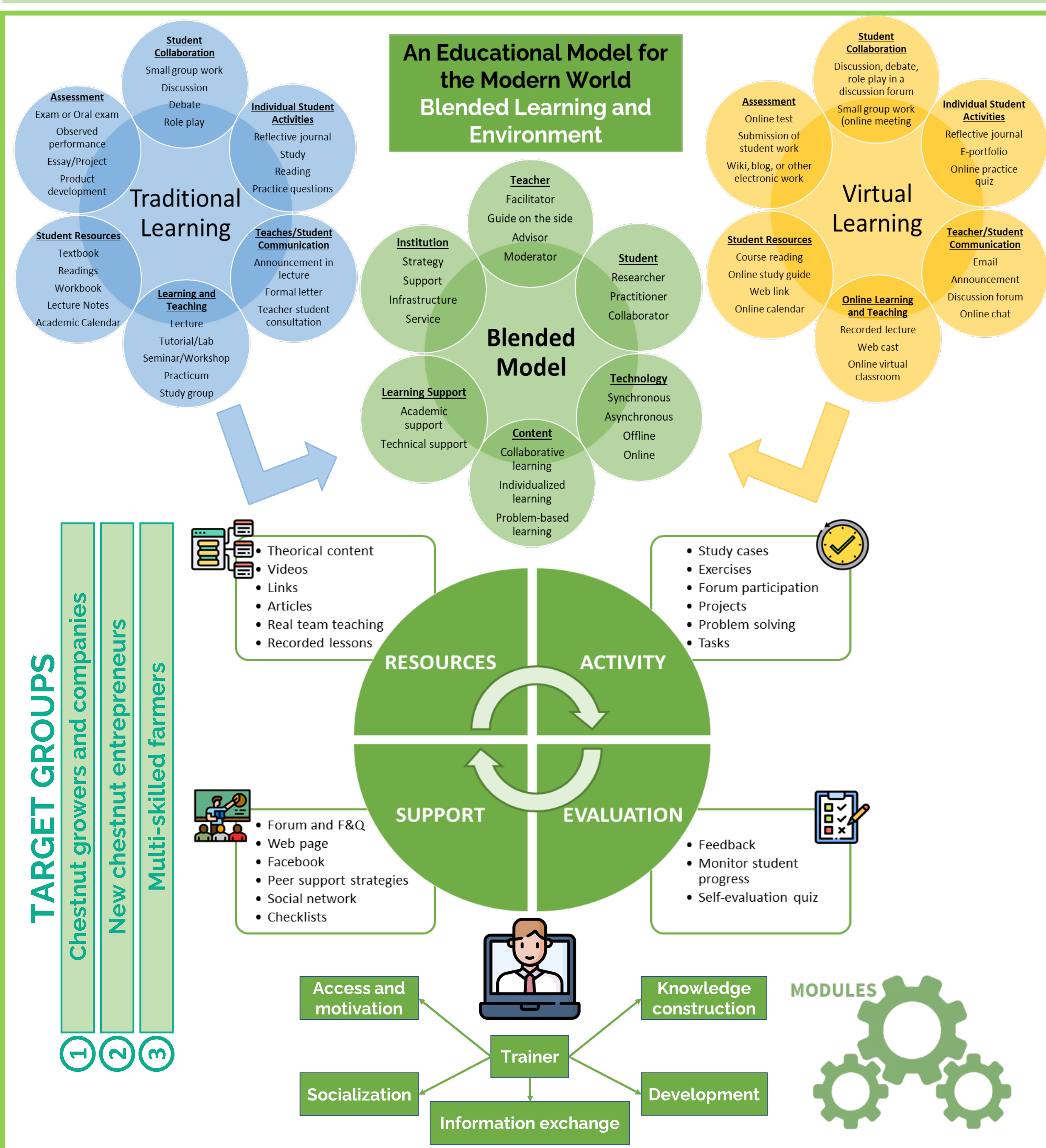
CONCLUSIONS

The main conclusions of the learning model creation process were that based on all studied **target groups** and their needs, the partners decided to develop a training course following **B-learning, multidisciplinary and comprehensive** approach to meet the specific needs for a course in **organic chestnuts** and chestnut products mainly targeted towards farmers and producers. The learning model helped to provide transversal, multidisciplinary and tailor-made training and to develop an integral pack of training course, manual for trainers and guide on **certification of organic chestnuts** applicable on **EU level**. At last, correctly establishing of the learning model and the pedagogical framework is essential to the **successful development** of the course and the implementation of this new training option for farmers in all Europe.