

UNIVERSITATEA DE ȘTIINȚE AGRICOLE ȘI MEDICINĂ VETERINARĂ CLUJ-NAPOCA
ȘCOALA DOCTORALĂ DE ȘTIINȚE AGRICOLE INGINEREȘTI

TEZA DE ABILITARE

DEZVOLTAREA RURALĂ SUSTENABILĂ ȘI PROTECȚIA MEDIULUI ÎNCONJURĂTOR. BUNE PRACTICI ȘI OPORTUNITĂȚI

Domeniul: **Inginerie și management în agricultură
și dezvoltare rurală**

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CLUJ-NAPOCA, 2023



SUMMARY

The habilitation thesis presents the evolution and the most important academic and scientific achievements obtained after obtaining the title of Doctor of Agronomy (2002) until now, as well as the career development plan as a teacher, researcher and improving professional prestige.

The habilitation thesis entitled “Sustainable rural development through environmental protection. Good practices and opportunities”, this includes the main research directions approached, respectively: the sustainable development of the rural area by promoting sustainable consumption models; sustainable development of the rural area by promoting circular economic models; rural communities and their involvement in the management of protected natural areas.

The first chapter, introductory, presents the course of the university teaching career as well as that of a trainer within the various projects, the continuing professional training after obtaining the doctorate, the scientific research activity within the projects, both as a project manager and as a member in the project team.

The results of the scientific research activity were used in numerous publications. The 77 works published after the completion of the doctoral studies are focused on the theme of the superior exploitation of plant and animal resources, the sustainable development of the rural space, the diagnosis of the rural space and the evaluation of the impact that human activity generates on the environment. Of these, 41 works are indexed in databases, respectively 6 works in journals with an impact figure indexed in Web of Science, 2 works in journals without an impact figure indexed in Web of Science, 33 works in publications indexed in Databases International, 18 papers

published in the publications of international conferences, 17 papers published in the publications of national conferences and 1 article published in the magazine of current national circulation.

The publishing activity was also the result of some research contracts whose purpose was to publish the research results in the volumes of some books, respectively 3 chapters in 2 books published abroad, 4 published books to which are added 2 chapters published in a book in Romania, but also a notebook of practical works for the students of the specialization of Engineering and Management of Public Food and Agritourism.

Involvement in 30 research projects/contracts, but especially application projects, both as a consortium leader and as a partner, has led to the creation of partnerships between academia, organizations representing the civil community and public institutions. The projects aimed to create benefits through the transfer of knowledge and the development of real skills for human society.

Chapter 2 reports the results obtained from the research activity related to the sustainable development of the rural area. In Chapter 2.1. is dedicated to the sustainable development of rural areas by promoting sustainable consumption patterns. The results of this research were correlated with the activity in research contracts aimed at education and the promotion of sustainable consumption patterns.

The first part of this chapter presents the impact of food production and how consumption patterns have an impact on the environment. In order to develop awareness-raising programs, it was particularly important to study in advance the preference of local consumers for products that promote sustainable development, namely organic products and traditional foods.

Based on the results of previous research, which clearly shows the extent of the negative impact of food production and consumption patterns in Chapter 2.2. circular economic models are promoted in order to sustainably develop the rural area. Starting from the different possibilities of applying the circular models in the field of agriculture (subchapter 2.2.1.) And highlighting the negative impact generated by the water consumption in agriculture, a circular micro-economic model for optimizing water consumption is proposed (subchapter 2.2. 2). The main aim of the research was to develop a system of tradable permits combined with revolving bonds designed to encourage and create favorable conditions for farmers to convert to organic farming. Thus, this system aims to encourage farmers to use alternative sources of water instead of the usual irrigation network or to orient the agricultural system towards ecological systems. Based on the interactions between water, pesticides, fertilizers and crops, the return guarantee system determines that farmers have been encouraged to reduce the amount of water used in the aquifer, the return guarantee system combined with a tradable permit system, generates benefits for greener farmers and stimulates conversion to organic farming. The research also aimed to create a system that would improve the social acceptance of such an economic instrument, which would otherwise not deepen social inequality between farmers and lead them to see environmental protection and an economic opportunity.

As rural areas can generate viable models of sustainable development, and rural areas overlap to a very large extent with land areas that include protected natural areas, the interaction between rural communities and administrators / custodians of protected natural areas is a relationship that needs to be cultivated. for the benefit of all. In Chapter 2.3. Rural communities and their involvement in the management of

protected natural areas, emphasize that the protection and conservation of biodiversity, in fact supports the genetic reservoir of the future of humanity (subchapter 2.3.1.). Studies highlight the dramatic losses that occur in biodiversity, caused by the interaction between man and nature, and emphasizes the role of ecosystem services in adapting to climate change, etc. In order to raise awareness of the role of ecosystem services , an inventory of service flows produced by agriculture as an ecosystem service has been compiled (subchapter 2.3.2.). As an example of the role of local communities in the protection and conservation of biodiversity, the research was carried out together with an awareness campaign aimed at improving the knowledge of the local population about the danger of continuous expansion of invasive species by unsustainable agricultural practices (subchapter 2.3.3.). In the long run and on a large geographical scale, invasive species have a high potential to have a negative impact on the environment and the economy. The availability of local communities in their direct involvement in measures to combat invasive species was studied and the effectiveness of awareness-raising meetings to promote sustainable agricultural practices was studied.

At the end of the habilitation thesis, I presented the main directions of career development.

The scientific research career will aim at creating partnerships and attracting funds through research-development and educational projects. The results of the research will be disseminated in publications with significant impact and by participating in international events. Through education projects that aim to improve the skills and increase the skills of the rural population through access to open educational resources, interactive learning, exchange of experiences, demonstrations, etc. I want to have an active involvement in the development of development strategies, the

facilitation of economic and social partnerships, the involvement of the private environment in research and development projects.

Academic development will aim to improve the academic act by applying interactive teaching methods acquired through educational projects, writing updated textbooks, active participation in increasing the prestige of the academic environment.

I want to transfer my knowledge and expertise to academia through the coordination of master's and doctoral students, considering that education is a catalyst for development, forms characters and raises awareness.