

# Master's Study Program Multifunctional Agriculture in English-SWOT Aanalysis and Practical Experience

Petr Konvalina

Faculty of Agriculture and Technology, University of South Bohemia in eské Budjovice,  
Studentská 1668, eské Budjovice, 37005, Czech Republic  
E-mail: konvalina@fzt.jcu.cz

## Abstract

The internationalization of study programs is one of the critical prerequisites for the future advancement of university education and can also be understood as specific support for the sustainable development of less developed countries. For the reasons stated above, the Faculty of Agriculture and Technology (FAT), the University of South Bohemia in eské Budjovice, Czech Republic (CZ), has accredited the master's study program Multifunctional Agriculture. The program is primarily intended for students from abroad and combines both aspects of modern agricultural management and questions of organic farming and sustainable landscape management. The goal of the contribution is to present the results of a SWOT analysis after eight years of implementing the study program. The presented results are based on the STAG information system, brainstorming between academic and administrative staff, and students interview. The main strengths include the content of the study program (modern agriculture combined with elements of sustainable management), the general interest of students, and relatively low costs. The main weaknesses include a lack of interest in studying in English for Czech students, and most students come from one geographical area. Opportunities include the program in a network with one of the universities from abroad (double degree, eq.), obtaining motivated students from other parts of the world (e.g., Southeast Asia), and obtaining financial support for improving the quality of the study program. Among the main threats is the visa policy of the CZ. The experience with implementing the study program is positive and brought to FAT several motivated students with the potential to later study in doctoral study programs. The main goal for the future is to find a strategic partner among universities from abroad and to expand the study program, for example, into a double degree.

**KEYWORDS:** sustainable agriculture, master's study program, study in English, SWOT

## 1 INTRODUCTION

The role of education, a key element of human capital, in farming activity has been deeply recognized in the literature concerning both developing and developed countries (Maini et al., 2021). Societies are changing, and so should agricultural education (Briz et al., 2020). Graduate and undergraduate studies in agriculture and agricultural engineering, along with agricultural vocational training schools, are examples of the broad changes in education in agriculture and natural resources (Kunkel et al., 1996). In consequence, the younger generation needs to be better prepared for the changes in agriculture and its markets, which are

driven by higher incomes and greater demand for high-income elasticity goods and services (Briz et al., 2020)

In the last decade, Higher Education Institutions (HEIs) were looking for ways of enhancing the connections between curricular activities and sustainable development (Perfözl and López-Varela, 2022). In the sustainable development goals, universities are the fundamental axes since they promote a change in social behavior through technological and economic development with environmental responsibility (Acosta Castellanos et al., 2021). The main task of universities is to train students and the next generations of professionals in all fields of research and in innovative technological designs that are friendly to the environment, to increase the levels of sustainable development and quality education (Acosta Castellanos et al., 2021).

A large proportion of students are interested in gaining international experience as part of their studies (Perfözl and López-Varela, 2022). The former two decades have also experienced the globalization of higher education (Brachem and Braun, 2018), which has persuaded thousands of students from least-developed countries to travel to developing or developed countries for better quality education and career orientation (Abbas et al., 2021). Even though students possess a variety of alternatives to study abroad, they experience tough competition in the selection of educational institutions and the country of destination. Besides, considering the challenging environment, HEIs also need to have a competitive strategy (Abbas and Sasan, 2019) to attract more and more international students (Abbas et al., 2021).

For the reasons mentioned above, the master's study program in Multifunctional Agriculture was prepared and accredited as an activity supporting the university's internationalization and the faculty. Despite the initial difficulties, the study program was successfully integrated into the structure of study programs. As part of the institutional evaluation, the program is regularly evaluated. The results are now summarized and evaluated using a SWOT analysis.

The aim of the contribution is to evaluate, through a SWOT analysis, the experience with the implementation of the master's study program Multifunctional Agriculture, which was created in response to the need to strengthen sustainable agriculture-oriented education and attract students from abroad.

## **2 MATERIAL AND METHODS**

The contribution contains a SWOT analysis evaluating practical experience with the implementation of the master's study program in Multifunctional Agriculture (Web-1).

The information base for SWOT analysis is based on the STAG information system (Web-2), used to administer study programs at the University of South Bohemia in eské Budjovice, reports of outcomes of regular evaluation by the study program board, student questionnaire and from my own experience.

The student questionnaire included ten questions and was divided into two parts. The first group of questions focused on students' motivation to choose a study program. The second part included questions mapping the study experience. Students answered on a point scale (0 = least important, 10 = most important). Results were graphed as means. The SWOT analysis method is a decision-making model that selects the best survival and development

strategy (Kenneth, 1971) after a comprehensive analysis of an organization's internal and external environment. In SWOT analysis, analyzing the internal situation of the organization can locate special abilities, while examining the external situation can determine the potential success factors of the organization (Kalaman et al., 2021). The internal and external analyses form the basis of the analysis strategies (Fahim et al., 2021).

SWOT analysis includes an assessment of STRENGTHS (characteristics that give it an advantage over others), WEAKNESSES (characteristics that place it at a disadvantage relative to others), OPPORTUNITIES (elements in the environment that could exploit to its advantage), THREATS (elements in the environment that could cause trouble).

### 3 RESULTS AND DISCUSSION

The study program Multifunctional Agriculture is divided into four thematic blocks (semesters). The first block mainly includes expanding the basics of agriculture to harmonize student knowledge from different geographical areas. The second block is oriented toward modern agricultural production and biotechnology. The third block includes organic farming and non-production activities on farms. The final block is oriented toward sustainable agricultural landscape management. As part of the study program, students can study all four thematic blocks to choose a stage within the framework of exchange programs only within one semester (e.g., arrivals within the Erasmus+ program).

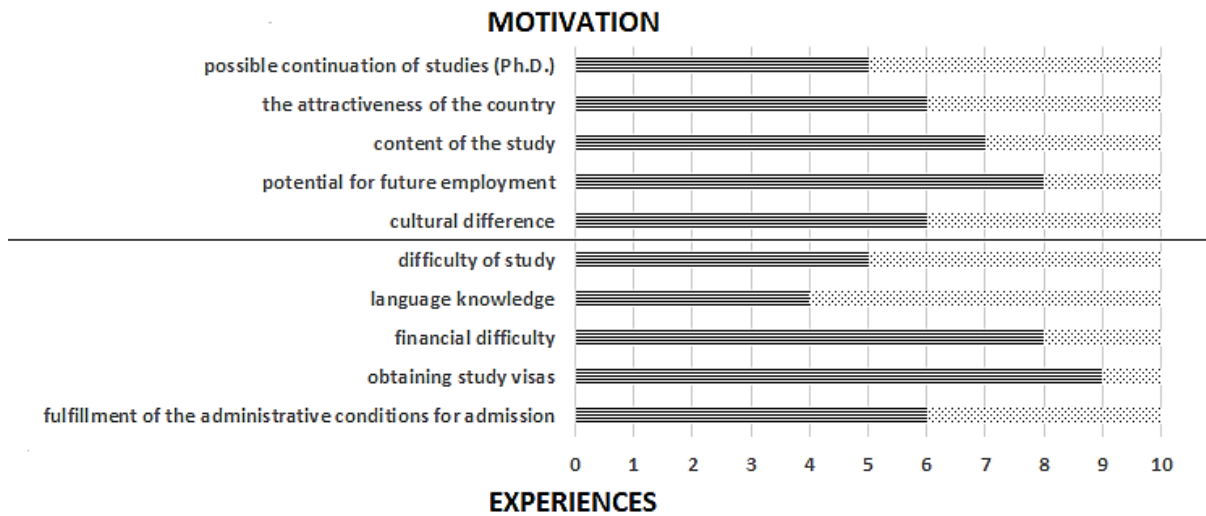
Among the strengths of the study program is the focus on sustainable agriculture and the overall great interest in the stage on the part of the students. The study program is supported by the university's strategic documents and has been accredited for ten years. The inclusion of Multifunctional Agriculture among the programs funded under the government's Foreign Development Assistance Program and the meager tuition fee is also positive. The support of various aspects of sustainability is currently an important topic, and according to several authors (Abbas and Sasan, 2019; Maini et al., 2021) education should move in this direction.

An opportunity for the development of the study program is the fact that it is provided by a university based in the European Union, as it is a preferred location for students from third countries. To strengthen the study program, it will be necessary to find a foreign partner university and, ideally, to connect Multifunctional Agriculture with its study program and, in the future, to offer a stage in the form of a double degree. Double degrees cover more than one disciplinary area to provide the education that graduates, employers, and society need in a complex, changing, and the knowledge-intensive world (Ramírez-Adrados et al., 2022). Other opportunities include demographic development in developing countries (Yoshida et al., 2019), which generates many potential students interested in the issue of sustainable development.

Among the main areas for improvement is that local students are not interested in studying English. As part of the study program, only international students learn, who are usually recruited from two areas (West Africa - Nigeria and South Asia - Pakistan). Students from Pakistan represent one of the largest groups of students in Europe (Abbas et al. 2021). On the contrary, students from developed countries are not currently interested in studying. The disadvantage is that we need a scholarship program to support a student, as the cost of a stage abroad is a frequent obstacle (Curtis and Ledgerwood, 2018).

**Table 1: SWOT analysis**

	<b>Helpful</b>	<b>Harmful</b>
	<b>STRENGTHS</b>	<b>WEAKNESSES</b>
<b>Internal</b>	Orientation to modern and sustainable agriculture	Local students are not interested in studying in English
	Accreditation of the study program for ten years	Mainly students from two geographical areas
	Support of the study program within the strategic documents of the university	The reluctance of teachers to conduct classes in English, etc.
	Student's interest in studies	Different basic knowledge of students
	Low tuition fee	No scholarship support
	Inclusion in the government's Foreign Development Assistance Program	A narrow range of subjects from several departments
	Studying at a university that ranks well in the ranking	Not interested in students from developed countries
	<b>OPPORTUNITIES</b>	<b>THREATS</b>
<b>External</b>	Interest in studying in the European Union	Visa policy
	Partnership with a foreign university	Change in legislation and conditions of accreditation
	Obtaining funds for the innovation of subjects	A decline in interest in the stage of agriculture
	Offer of follow-up doctoral studies	The loss of key professors from the university
	Demographic development in developing countries	The competitive environment in the European Union
	Strengthening aspects of sustainable development	Unforeseen circumstances complicating the arrival of a student from abroad (e.g., pandemic restrictions)
	Cooperation with successful graduates	The rise in the cost of living in the Czech Republic and the rising costs of students



**Figure 1:** Motivation and experiences of students (1 = less important, 10 = the most important)

The biggest threat is the government’s visa policy when students have great difficulties obtaining visas (mainly students from West Africa and South Asia, and the whole process is very lengthy (Mau et al., 2015). A general problem can also be unpredictable obstacles, as they witnessed concerning the COVID pandemic. The future situation is also the increasing cost of living in the Czech Republic, which will lead to some potential students needing help to afford the stage.

Figure 1 shows the summary results of the questionnaire survey among students. From the point of view of the motivation for choosing to study in the master’s program Multifunctional agriculture, the potential for finding a good job application and the focus of the study program play the highest role. The different cultural experience during studying on another continent and the destination’s attractiveness is also significant. Our experience shows that students rate the security situation in the Czech Republic very well, which is among the eight safest countries in the world according to the Global Peace Index 2022 (IEP, 2022). As for their own experience, the students find the study manageable and are okay with studying in English. Obtaining study visas is an apparent problem. In our experience, the visa process can take almost a year.

#### 4 CONCLUSION

The study program Multifunctional Agriculture is beneficial for developing the faculty’s internationalization. There is interest in the stage; however, solving some critical tasks in the following period is necessary. The main ones include strengthening the emphasis on sustainable development, maintaining a low tuition fee, creating a partnership with a respected foreign university, and using the potential of graduates for future cooperation. From the point of view of weaknesses, it is necessary to focus on obtaining motivated students from more geographical areas (e.g., Southeast Asia) and to ensure scholarship support for the student. It will also be necessary to prepare for threats that are difficult to influence, such as problems

with obtaining student visas or potential hazards in connection with future travel restrictions, as we experienced during the pandemic. It is possible to respond to these threats, for example, by organizing studies and strengthening the online form of education.

## REFERENCES

- Abbas J., Alturki U., Habib M., Aldraiweesh A., Al-Rahmi W.M. (2021). Factors Affecting Students in the Selection of Country for Higher Education: A Comparative Analysis of International Students in Germany and the UK. *Sustainability*, 13, 10065.
- Abbas J. and Sasan, M. (2019). Impact of Knowledge Management Practices on Green Innovation and Corporate Sustainable Development: A Structural Analysis. *Journal of Cleaner Production*, 229, 611620.
- Acosta Castellanos P.M., Queiruga-Dios A., Álvarez L.G. (2021). Inclusion of Education for Sustainable Development in Environmental Engineering. A Systematic Review. *Sustainability*, 13, 10180.
- Brachem J.C. and Braun E.M.P. (2018). Job-Related Requirements and Competences of Educational Science Graduates. *Journal of Further and Higher Education*, 42, 166176.
- Briz T., von Fragstein und Niemsdorff P., Radicetti E., Moschetti R., Uusitalo E., Iivonen S., Mynttinen R., Moudrý J., Moudrý J., Konvalina P., Kopecky M., rednicka-Tober D., Kazimierczak R., Talgre L., Matt D., Veromann E., Mancinelli R., Rembiakowska E. (2020). Knowledge and Skills Attractive for the Employers of the Organic Sector: A Survey Across Europe. *Renewable Agriculture and Food Systems*, 35, 710719.
- Curtis T., Ledgerwood J.R. (2018). Students' Motivations, Perceived Benefits and Constraints towards Study Abroad and Other International Education Opportunities. *J. Int. Educ. Bus.*, 11, 6378.
- IEP (2022). *Measuring Peace in a Complex World*. IEP, Sydney, June 2022. Available from: <http://visionofhumanity.org/resources>, consulted 22 January 2023.
- Fahim, A., Tan, Q., Naz, B., Ain, Q. U., Bazai, S. U. (2021). Sustainable Higher Education Reform Quality Assessment Using SWOT Analysis with Integration of AHP and Entropy Models: A Case Study of Morocco. *Sustainability*, 13, 4312.
- Kalaman, O., Stupnytska, T., Melnyk, Y., Doicheva, K. (2021). Management of Enterprise Development Strategies Formation: Analysis and Synthesis Methods. *Studies on Applied Economics*, 38, 4.
- Kenneth, R. A. (1971). *The Concept of Corporate Strategy*; Dow Jones-Irwin: Homewood, IL, USA, pp. 1846.
- Kunkel H.O., Skaggs C.L., Maw I.L. (1996). *Revolutionizing Higher Education in Agriculture: Framework for Change*. Ames, IA: Iowa State University Press.
- Maini E., De Rosa M., Vecchio Y. (2021). The Role of Education in the Transition towards Sustainable Agriculture: A Family Farm Learning Perspective. *Sustainability*, 13, 8099.
- Mau S., Gülzau F., Laube L., Zaun, N. (2015). The Global Mobility Divide: How Visa Policies Have Evolved over Time. *Journal of Ethnic Migration Studies*, 41, 11921213.
- Perfözl R., López-Varela A. (2022). Internationalisation of Teaching and Learning through Blended Mobility: Potentials of Joint International Blended Courses and Challenges in Their Implementation. *Education Sciences*, 12, 810.



*Proceeding of the 7<sup>th</sup> TICC International Conference 2023  
Toward Sustainable Development Goals: Transformation and Beyond  
February 4-5<sup>th</sup>, 2023, Chiang Mai, Thailand*

- Ramírez-Adrados A., Fernández-Elías V.E., Fernández-Martínez S., Martínez-Pascual B., Gonzalez-de-Ramos C., Clemente-Suárez V.J. (2022). The Effect of Studying a Double Degree in the Psychophysiological Stress Response in the Bachelors Thesis Defense. *International Journal of Environmental Research and Public Health*, 19, 1207.
- Yoshida T., Er-rbib R., Tsutsumi M. (2019). Which Country Epitomizes the World? A Study from the Perspective of Demographic Composition. *Sustainability*, 11, 6404.

Website:

Web-1: <https://www.fzt.jcu.cz/en/admissions/degree-programmes/study-programme?programme=3267>, consulted 7 January 2023.

Web-2: <https://wstag.jcu.cz/>, consulted 9 January 2023.