

Introduction

Food sustainability is complex and includes a range of issues from malnutrition, to agriculture's impact on natural resources, to food waste. Higher education is crucial in giving students not only the knowledge but the necessary skills and attitudes to tackle food sustainability challenges.

The case presented here uses the Food Sustainability Index (FSI) to develop an educational module (named FSI Edu) which offers both theoretical background and experiential learning to bring the acquired knowledge into practice while developing systemic thinking through empathy.

The FSI monitors 67 countries from all over the world (Figure 1), and is a quantitative and qualitative benchmarking model constructed from 38 indicators and 90 individual metrics that measure the sustainability of food systems across three categories: Food Loss and Waste, Sustainable Agriculture and Nutritional Challenges. The index has three key types of performance indicators—environmental, societal and economic.

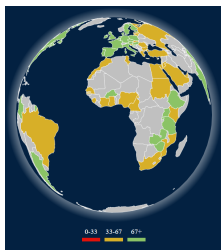


Figure 1: world map with FSI Scores (from <https://foodsustainability.eu.com/>)

Learning outcomes

- Understanding the global challenges related to food sustainability and the fundamental role of food in achieving the SDGs;
- Understanding the three key pillars of food sustainability (nutritional challenges, sustainable agriculture, and food loss and waste) and the complexity of the global food system through the use of an index based data and metrics (named FSI index);
- Understanding the geographical diversity of food sustainability and the differences in needs and resources of countries;
- Understanding the basis for policy development, starting from the assessment of food in its complexity;
- Understanding the need for a multi-stakeholder dialogue in order for food sustainability challenges to be tackled leveraging on empathic mechanisms;

Methods

The FSI Edu is an educational module using a set of supporting materials (Figure 3). These include: i) a slide deck with an overview of the theoretical background of food sustainability and of the FSI, as well as instructions for the two suggested practical workshops; ii) an Excel workbook, containing all the data related to the last edition of the FSI; iii) a questionnaire to test students' knowledge on food sustainability issues before and after the FSI Edu module; vi) four video tutorials to guide lecturers through the different parts of this module; The module can be implemented either in face-to-face or online classes.

The full toolkit is freely available upon registration at: https://www.barillacfn.com/en/educational_programmes/fsi-edu/

Results

This module is recommended for both undergraduate and postgraduate students. The faculties to be targeted include, but are not limited to, those of Agricultural Economics, Food Studies, Environmental Engineering, Tourism and Hospitality Management, Nutritional Sciences and Geography. The FSI Edu has reached nearly 600 students in universities around the world, both in the setting of face-to-face and online classes, who have experienced also one or both of the following workshops (Figure 2).

Workshop "Being a country": aims at exploring the complexity of food sustainability through the FSI, identifying which are the challenges and opportunities of national food systems.

Workshop "Being a Food System Agent": aims at experiencing the multidimensionality, complexity and subjectivity of decision making in food sustainability and at understanding, through an empathic process, how different society and food system agents can influence the decisions regarding food sustainability in general.

Discussion

The two workshops of the FSI Edu toolkit are crucial to foster empathy in students and make sustainability teaching more effective to tackle the current societal challenges: through the feedback gathered so far it is evident that i) they enhance the understanding of the complexity of food sustainability issues; and ii) they can generate more creative planning and solutions for more sustainable food systems.



Figure 2: students experiencing the FSI Edu workshops

Implications

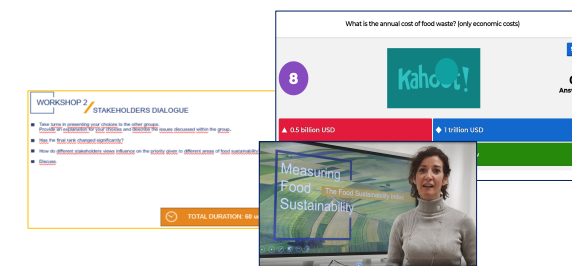


Figure 3: overview of the FSI Edu toolkit materials

Literature Cited

Publications dealing with the application of FSI Edu (forthcoming):

(1) Massari, S., Allievi, F. and Recanatì, F. (2021). Fostering empathy towards effective sustainability teaching: from the Food Sustainability Index educational toolkit to a new pedagogical model. In Leal Filho, W., Salvia, A.L., Frankenberger, F. (Eds) Handbook on Teaching and Learning for Sustainable Development. Edward Elgar Publishing, Cheltenham. In press (first semester 2021).

(2) Allievi, F., Massari, S., Recanatì, F. and Dentoni, D. (2021). Empathy, systems and design thinking for fostering youth agency in food sustainability: A new pedagogical model. In "Transdisciplinary Case Studies on Design for Food and Sustainability", Elsevier. In press (first semester 2021)

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