Trash to Treasure:

How indoor food waste and composting projects can gain momentum in Educational institutions

AUTHOR

Bence Szabó

International Business Economics

Budapest Business School – University of Applied Sciences

Research conducted for the International Scientific Student Conference on Sustainability within the framework of the Day of Hungarian Science.

DOI: <u>10.29180/9786156342218_14</u>

ABSTRACT

This research aims to find answers on how Budapest Business School can manage to intertwine sustainability ambitions with the everyday lives of dormitory students. Moreover, how students and the institutions can find the appropriate stakeholders to apply these ambitions.

This paper details the composting awareness and willingness of the students from the Mátyásföld hall of residence of Budapest Business School through an independent questionnaire. The survey is looking for possibilities of application of university composting. In addition, it seeks to find what cultural differences there are in the views about composting and the limits within which it can be promoted in the university dormitory.

Furthermore, the study gives an analysis of educational institutions from all over the world successfully incorporating sustainable composting aspirations within the respective cultural background.

The research expects to find successful precedents of cooperation between students and the institutional leadership of high schools and universities in sustainable composting projects worldwide, with possible external entities to promote sustainability projects.

This study can connect the csr interest of the educational institutions with the green ambitions of the student society and further promote the idea of the circular economy.

Key words: composting, culture, dormitory, student life

1. Introduction

Topic and motivation

Budapest Business School to this day has accomplished several major achievements of the field of sustainability with special focus on student involvement. Such initiatives include the International Scientific Conference on Sustainability - A sustainability conference based on the research results of the international community of students who wish to present their unique views on how we as a society could positively influence our natural environment.

Following the sentimentality of this conference in 2019, a group of students living in the Mátyásföld hall of residence, the dormitory for the Faculty of International Business Management (FIMB) in the 16th district have taken steps to establish and maintain a regular food waste composting site in the proximity of the dormitory. Starting from May 2019, the local municipality has granted two wooden composting containers for the students, which, up until the outbreak of pandemic followed by the reduced dormitory capacity, have constantly received donations of food waste.

This initiative has now been active for almost two years and has encountered several challenges in its short lifetime. The special international nature of the dormitory requires bilingual communication to allow for intercultural dialogue between the Hungarian and foreign residents. The appropriate education about composting has faced cultural, as well as language barriers in the past years. Furthermore, maintaining continuity and boosting student morale for the composting project has constantly been in the focus. Finally, one of the key challenges of this campaign is and will be to make composting a relevant aspect of the dormitory life and on a larger scale, in the university life.

For a successful future for the dormitory composting, there was a need to look beyond the frames of my own university to see how several other educational institutions managed to successfully integrate this green concept into the student life.

2. Theory

Food waste trends

The basis and relevance of composting lies in the following data of the Food and Agriculture Organization of the United Nations (FAO), 30% of food is wasted, which amounts to nearly 1.3 billion tons per year ((FAO), 2011). If we wish to analyse the trends within the borders, according a study of the European Commission, Hungary produces close to 2 million tons of food waste annually. (Association H. F., 2018) However, Hungary differs in the fact that most food goes to waste in the processing and production stages (62%), while household consumption and retail amount for the remaining 38%. (Bori, 2018) According to a recent food waste research in Hungary, 165 participant households provided data for an estimated annual food waste "production" of 65.49 kg, out of which, nearly half of the amount could be avoided and saved from wastage. (Gyula Kasza, 2020) Based on the data presented in Figure 1 originating from the aforementioned research, it is visible that the participants received either high school or higher education and still, they produced this large amount of food waste with such avoidable amount.

It must be noted that this research cannot be generally interpreted concerning the Hungarian population. However, it sheds light on the importance of education. It is crucial to raise individual awareness of the immediate and long-term effects of food waste management strategies for the environment, particularly in universities, as they can be considered "small worlds" which lay the foundations for an environmentally conscious society.

Age of the person generally responsible for food purchasing	
Under 30 years	11.52%
Between 30 and 39 years	20.61%
Between 40 and 59 years	50.91%
Above 60 years	16.97%
Qualification of the person generally responsible for food purchasing	
Elementary	6.0%
High school graduation	38.2%
Higher education	61.2%
Income level of the household	
Low	1.21%
Below average	14.55%
Average	65.45%
Above average	16.97%
Very high	1.82%

Figure 1 Socio-demographic information. Quantification of Household Food Waste in Hungary, p.7, (165 participant sample) source: https://www.mdpi.com/2071-1050/12/8/3069/pdf

Schools as models of society

For the successful implementation of a composting campaign in the university framework, it is crucial to understand the underlying conditions of this framework. Based on a research of the Federal University of Technology in Akure, Nigeria, the institutional theory by Philip Selznick serves as a "theoretical framework for analyzing social and organisational phenomena. This theory links the social world around us with the institutions we as a society have built up with its rules, practices, and structures. As these manmade units consist of individuals, the unit itself, however solid it may become is subject to the influences of the inside members and the outside environment. By understanding the flow of social life in. Institutions with its inherent societal rules and accepted codes of conduct, we can understand how success and failure of a local green initiative can imply the efficiency of that initiative in the larger pools of the society. (Rutherford, 1996) For stakeholders that wish to achieve great success in the society must adapt the societal rules into the institutions and they need to cater for these rules within the organisational unit and the external environment (Rowe & Whermeyer, 2001) The theory further emphasizes the relationship between organizational behaviors and institutional pressures. Stakeholders play a critical role in this relation since they elevate concern about issues to a level at which organizations feel such pressures. It is their responsibility and main source of legitimacy that institutions must flexibly adapt to the needs of the outer world.

In a more specific sense, a campus or more narrowly, a dormitory culture can truly be a mirror for larger society issues if look at how hazardous chemicals and pesticides used for sanitization in the campuses could pollute the local water supplies. (Syafrudin, et al., 2021) The increasing traffic around university campuses causes congestion problems for the local citizens and the students as well. (Kaplan, 2007) These examples serve as proof for how well a small community can model larger problems.

The institutions' adapting capabilities rely on how they begin to modify their organizational characteristics to conform with others to increase compatibility with environmental characteristics. (Aasa, Jesuleye, & AJAYI, 2020). As of 16 February, 2021, based on decision of the rector's council, Budapest Business School has decided to change the model of the university to train future responsible professionals. (Budapest Business School, 2021) With leaving the regulatory environment that once binded the universities, now the educational institution shall face increased pressures from market environment and the stakeholders, which can include the environmental protection practises.

Barriers of composting1

In order to move forward with a university society keen on engaging in composting activities, it is worth mentioning the many obstacles that such green initiatives face in their lifetimes. Greening of Higher Education is the challenge to find the common interest between campus decisions and activities, as well as raising environmental awareness with the citizens of college or university. The purpose of green initiatives in these educational institutions is to teach and demonstrate the principles of how we manage our natural world and how we can establish a habitable environment for our future generations, (Eric Neumayer, Overcoming barriers to campus greening: A survey among higher educational institutions in London, UK, 2001). Therefore, the flexibility of stakeholder to face the sustainability challenges of a university campus will be an internal implementation challenge paired with being reactive to the ever-changing market and societal needs. Individual workers and students on campuses can already be environmentally conscious with their everyday activities, such as switching of light, water usage and the institutions can lay the green foundations with selective waste collection bins, electronic tests rather paper tests, etc.

Based on a survey conducted to measure the environmental awareness of university students in London, the respondents mentioned several barriers to green initiatives. Firstly, the financial resource barriers as to whether a noble green initiative can be feasible as in most cases they require upfront capital (Eric Neumayer, Overcoming barriers to campus greening: A survey among higher educational institutions in London, UK, 2001, p. 21). Secondly, the lack of environmental awareness which could be tackled by the university staff, academics and students potentially working together. The potential motivation for students to focus on extracurricular environmental studies was the offer of extra credits. (Eric Neumayer, Overcoming barriers to campus greening: A survey among higher educational institutions in London, UK, 2001, p. 23)

¹ Composting is a biological process that breaks down organic matter into material. Return of the compost to university grounds can improve the soil structure, and reduce the need for fertilisers. Composting can help avoid adverse environmental impacts associated with landfilling and incineration. Waste that can be the subject of composting is organic matter such as food waste, paper napkins, leaves, grass clippings, and chipped brush (Creighton, 1999, p. 62)

Thirdly, one of the most defining barriers was the cultural one. As the majority of the London students and academics either considered themselves too busy or uninterested when it came to the involvement, it is a difficult situation for a smaller group of green advocates to have an impact on a larger campus society. (Eric Neumayer, Overcoming barriers to campus greening: A survey among higher educational institutions in London, UK, 2001, p. 24) If we look at culture from a national perspective, universities with an international array of students also need to tackle the challenge of social adjustments. In case of an American and international students studying in the USA, at the beginning of their studies, nternational students must overcome a variety of obstacles in order to be successful in the new country. They must adapt thenew university, academic system, culture, and most importantly, the language. Thus, it makes sense that the cultural and social adjustments for international students can be overwhelming. Many of them feel wither isolated from social contact with Americans or the stick with their peers form the same cultural background to maintain social relationships. (Nadia Korobova & Soko S. Starobin, 2015). Adding an additional burden with the focus on composting must be managed carefully if this initiative is to be used as a tool to integrate the visitor students into the hosting culture.

The fourth barrier mentioned in the London university study is the urban location of the campuses. Although only one out of the 6 chosen campuses claimed to have a backyard for waste management, this concept of a barrier was the least emphasised one in comparison with previous elements. The transporting cost associated with waste management is common concern and in these instances, either parking space is utilised for waste treatment or the universities turn to indoor solutions. In the case of such campuses, it highly advised to seek help and cooperation with the local communities for storage of waste. For the urban barrier topic, one of the key reasons why students did not feel connected to the campus greening efforts is that they themselves lacked connection to the campus itself. This was linked to the lack of recreational facilities, and these university buildings were not equipped or decorated with elements to inspire green thoughts. (Eric Neumayer, Overcoming barriers to campus greening: A survey among higher educational institutions in London, UK, 2001, pp. 24-25).

Hungarian scopes of application

In this segment, the several successful food waste treatment projects are listed to find potential partners and examples for the Mátyásföld Hall of Residence's future composting campaign.

Initiatives in education

The Secondary School Girls' Dormitory in the 14th district of Budapest has launched its green educational project in 2015 designated for the 15-18 year old residents. The main topic for this project is the development the local composting site. The dormitory holds thematically designed weeks of sustainability in October and the actions of this local community include dissemination of knowledge, ecological footprint calculation, questionnaires, "composting in practice" discussions, film screening (Trashed trailer 2012), leaf extraction, composting compilation, compost filling and management. This local community sets precedent to the fact that composting can also be dealt with in dormitory education. An excellent example of this is enthusiastic and complex work of the tutors and educators. On the one hand, they assessed their students 'environmental awareness, and then in the framework of

a session they taught about reducing the dorm's ecological footprint per capita. The students were exposed to composting concept through watching respective movies such as Trashed2. The local practical application of the dormitory's small composting site is to yield valuable fertilizer for growing tomatoes for the caretaker composting and living on the 3rd floor of building who is the third lives on the first floor and composting there, then the finished compost a use it for growing tomatoes. An additional component of the compost education was a group exercise in which the students learned about the functioning of the composter presented from the introductory phase, through the demolition and construction phase, to the ripening stage. Then they were split into other groups. The five people groups had to line up for image association and explanation exercises. The the group that gave the best explanatory text for the pictures won. With this task, the students revived biological and chemical knowledge.

For their internship program, 15 students from the college were asked to keep the project under control at the compost week. The older students that had already received 'compost training', controlled the newcomers how to inoculate compost and what we use it for in the garden. The teachers opened the works to a joint garbage collection. In 2014, they won their compost frames in a tender lubricated with linseed oil and assembled. Waste for compost collection process has also been developed, collection from the kitchen and including the collection of floor waste. Daily composting practice has been further developed as a container has been set aside only for organic waste that is emptied daily. The college horticultural professional students have been composting for two years by now. The institution with their composting program joined the EU Life + program3 of the Environmental Education Association. The initiative's main target goal is to maintain continuity for newer generations of high school students to come. (Nagy, 2020)

The Students for an Environmentally Conscious Approach (EKSZ) at Eötvös Lóránd University sets precedence toward university dormitory composting projects. This initiative started in the summer of 2008. Its goal is active environmental protection, which is based on a network of volunteers and wants to reach individual people with its message, which is the application of individual responsibility and environmentally conscious lifestyle in everyday life. (EKSZ, 2021)The university promotes active participation in discussions about sustainability, environmental activities on campuses and student's hostels at ELTE. These activities include recycling, composting, animal protection, community gardens, workshops, campaigns and Sustainability Days about CO2 reduction. During the organization, the most important task was to organize the regular (daily) emptying of the collectors placed on the levels. This was achieved after a short time of organization: the members of the working group regularly collect the organic waste in a bucket, take it to the garden collector, and wash the indoor buckets with clean water every week to avoid unpleasant odors. (University E. L., 2020)

The institution sought the active help of the Hungarian Hummus Association as civil organisation to provide education for compost management and sustainability. In its first 3 years, the dormitory generated approximately 20000 kg worth of fertiliser hummus, which was used in the local spice garden and flower garden, and the spices could be used by the residents. (Association H. H., 2011)

² Trashed movie trailer, Candida Brady (2012): https://www.imdb.com/title/tt2401099/

³ The LIFE programme is the EU's funding instrument for the environment and climate action. Created in 1992, it has co-financed thousands of projects to promote nature and biodiversity and circular economy development projects. (European Climate, 2021)

International scope of application

This segment is devoted to several major higher education institutions that managed to adapt large-scale composting practises on university campuses and beyond.

Initiatives in education

Texas State University in the USA has achieved groundbreaking results in education institution composting with its Bobcat Blend program, composting has already created a large market of two types: dollar markets and value markets. Dollar markets have the ability to offer the highest price for compost at the lowest volume. These markets generally consist of retail garden centers and nurseries centrally located within a city. Value markets are high volume markets paying a low price per cubic yard. These markets are generally focused on those for agricultural use Research has estimated the compost market value at 518 million tons annually. (Sanders, Waliczek, & Gandonou, 2011, pp. 2-3)

To give a proper definition, Bobcat Blend is a faculty managed student-run and grant-supported research and teaching-oriented waste management campus composting program. The goals revolve around teaching students, faculty and staff through daily operations and development of habits the environmental, economic, and intrinsic values of composting, in the cafeterias and in the classrooms, labs and landscapes on campus. The practical usefulness of the initiative lies in the hands-on experience in compost. The focus is on building a relationship between undergraduate and graduate students diversify collection and operation duties on the compost facility. Graduate students are tasked to responsibly manage and oversee the entire process. (University T. S., 2021)

The university's initiative achieved great results to proper communication with the local stakeholders affiliated with the student center food court. These stakeholders included decision makers from the campus's food service provider and the university student center officials. Through a joint decision, sorting sites were established in the peripheral areas of the campus cafeteria for sorting purposes. Through donations, the students received 95-gal carts for the collection and separation tasks. (Sanders, Waliczek, & Gandonou, 2011, p. 2). The crucial element of the initiative's success was the initial testing audit phases, where student volunteer paired with the cafeteria staff designated midweek days for testing the waste generation from consumption and how the system could operate.

Education of the students on the composting process was carried out through pre-event flyer promotion to inform the citizens well before the implementation took place. The flyers included detailed information about what the Bobcat Blend program stands for, what its goals are and contact information. The program received a unique logo for brand identification purposes. With the help of the student center's marketing team, the university marketing team, three separation bins for organic waste, plastic and paper were set up with unique signs and pictures to help people understand the system. (Sanders, Waliczek, & Gandonou, 2011, p. 3). The composting took place at a nearby farm where the compost supplies were collected through university sources and through a local tree company's cooperation agreement. The great significance of this project is that a sustainable system

of revenue generation was established as the compost generated by the university was sold at the real market value defined by local retail suppliers.



Figure 2: Logo design for the university program, source: https://ag.txstate.edu/outreach/bobcat-blend.html#:~:text=Bobcat%20Blend%20is%20a%20faculty,program%20at%20Texas%20State%20University.

The value of finished compost covered transportation, processing ,education costs and the wages of the participating experts and students. It is visible from Figure 3 that through this waste management initiative, the students could make larger and larger cost savings and revenues. Due to the biological nature of compost, the value of the product that students create is partly dependent on their expertise of compost treatment and thus, key educating programs also play a key role in ensuring the financial welfare of this project in the future.

Cost category	Cost computation	Fixed costs (FC)	Total variable costs (TVC)	first yr total costs (TC)	Subsequent yr total costs (SYTC)
Education	Labor-student worker number 1		\$1,728.00	\$1,728.00	
	Labor-student worker number 2 ^z		\$384.00		\$384.00
Transportation	Truck fuel/		\$319.20	\$319.20	\$319.20
	Truck repair		\$59.00	\$59.00	\$59.00
	Truck depreciation ^y	\$205.00		\$205.00	\$205.00
	Truck financing ^y	\$93.60		\$93.60	\$93.60
	Truck maintance ^y	\$57.80		\$57.80	\$57.80
	Student center-labor-student worker number 1		\$288.00	\$288.00	
	Student center-labor-student worker number 2 ^z		\$288.00		\$288.00
	Wood waste-labor-student worker number 1		\$240.00	\$240.00	
	Wood waste-labor-student worker number 2 ^z		\$240.00		\$240.00
Processing	Tuming piles*		\$431.68	\$431.68	\$431.68
	Screener-electricity		\$1.90	\$1.90	\$1.90
	Screener-depreciation ^w	\$50.00		\$50.00	\$50.00
	Screener-labor-student worker number 1		\$160.00	\$160.00	
	Screener-labor-student worker number 2 ^z		\$160.00		\$160.00
Graduate student stipend		\$11,250.00		\$11,250.00	
Graduate student coordinator		\$6,570.00		411,200.00	\$6,570.00
Totals				\$14,884.18	\$8,860.18
Expected revenue	Value of finished compost			\$10,944.00	\$10,944.00
	Student center trash compactor reduction in pulls			\$198.83	\$501.29
Expected return	- Canada III pana			(\$3,741.35)	\$2,585.11

Figure 3: Fixed, variable, first year total and predicted subsequent year total costs associated with the education of student workers, transportation, and processing of the compostable materials during the implementation of the university educational composting program at Texas State University, San Marcos. Source: https://www.researchgate.net/publication/286915611_An_Economic_Analysis_of_a_University_Educational_Cafe teria_Composting_Program-Bobcat_Blend

3. Methodology

Based on the literature review, I conducted a qualitative research with the data collected through a composting questionnaire with special focus on the residents of the Mátyásföld dormitory in the 2021 spring period. The analysis aimed to illustrate the potential volunteers in both the freshman and more experienced segments of the dormitory. Now, the dormitory has 203 registered residents, but only a fraction of this amount resides here due to the pandemic restrictions. The hall of residence hosts 19 international students and for the cultural aspect of the research, all 19 of them were included in the research, alongside with 83 Hungarian students. With 100 submissions, nearly half of the population is involved and thus, the results of the survey can serve as a noteworthy representative date relative to the overall population.

The questionnaire was divided along the lines of nationality, to measure the cultural attitude towards the different culture groups. Here, my main purpose clearly assess what relationships and connections have

Figure 4: Questionnaire guide for the international students. Source: self-created

Figure5: Questionnaire guide for the Hungarian students. Source: self-created



been established in the dormitory and how these relationships can contribute to communicating composting effectively. See Figure 5: for interview guide for the international students and Figure 6:.for the Hungarian students.

4. Findings

The question of gender is always a delicate yet important information gathered from these questionnaires. Studies have shown that women are more likely to participate in surveys and mine is no exception from this trend. (William G. Smith, 2008).

Férfi/Male: 46 % Nő/Female: 54 %

Figure6: Gender distribution out of 100 participants. Source: self-created

Further in the questionnaire, I was trying to find answers to how much more excited freshmen are, for example, in contrast with graduating students in the field of composting. Furthermore, the composition of the survey participants also gives a better view on which segments of the dormitory society shows interest towards this topic and who should be targeted with future recruitment campaigns.

Évfolyam/University Year

Nem/Gender

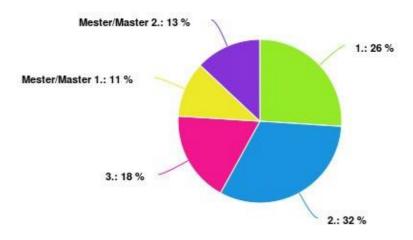


Figure7: Distribution of participants according university years. Source: self-created

Even though freshmen are in general more open to engage in campus activities, it is worth mentioning that students showed increasing tendencies towards high-impact activity participation in the later years according studies conducted in the USA. The reasoning behind that is the fact that the first years are about impressions and establishing their presence in the new society. Once they got used to the new climate, they are more willing to participate projects. (Meg L. Small & Emily A. Waterman, 2017). In our case, the second and third year students gave half of the population in this sample and despite this trend, it worth catering for the freshman audience. The overall distribution of the respondents' years shows promising participation numbers from all segments of the dormitory society, but a clear decline is still notable in the representation as the years progress.

Melyik szinten laktál a hazaköltözés/átköltözés előtt? On which floor did you live before moving due to the virus?



Figure8: Distribution of non-Hungarian participants based on floors of living. Source: self-created

In the dormitory, I noticed a spectacular phenomenon that the majority of international students were assigned to live one the periphery of the dormitory. The female students lived on the 4th floor and male ones lived on the ground floor, which means that they are physically away from where most of the Hungarian students live. This can also contribute to a lack of integration and communication between the cultures, further hindering the possibility of a joint international composting campaign.

Moving forward, the survey contained a question whether the residents heard about the dormitory composting campaign. My purpose with this question was to measure the success and reputation of the previous campaign by how much impact it had on the people from a multi-year perspective. It is clear, that in some form, the overwhelming majority of the students heard about the composting campaign in the dormitory, which is an excellent reflection on the marketing campaign's success. The papers and the presence of the bio bins grabbed the students' attention.

Hallottál már a korábbi kollégiumi komposztáló programról?/ Have you heard of the previous dorm composting program?

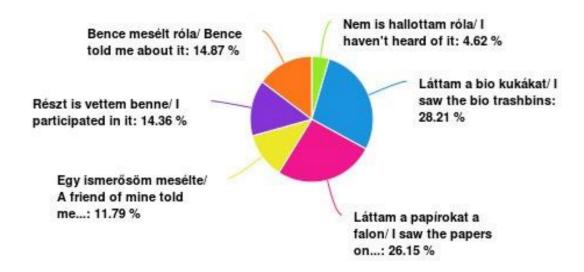


Figure9: Distribution of participants based sources of information. Source: self-created

The cultural dimension can be observed through these two comparative charts, where it is worth mentioning that the Hungarian students acknowledged the presence of the international students, but they don't seem to make any further efforts to befriend them. Meanwhile, the international students, based on their compulsion to conform to the local environment have shown that more of them are actively befriending Hungarian students. (Nadia Korobova & Soko S. Starobin, 2015).

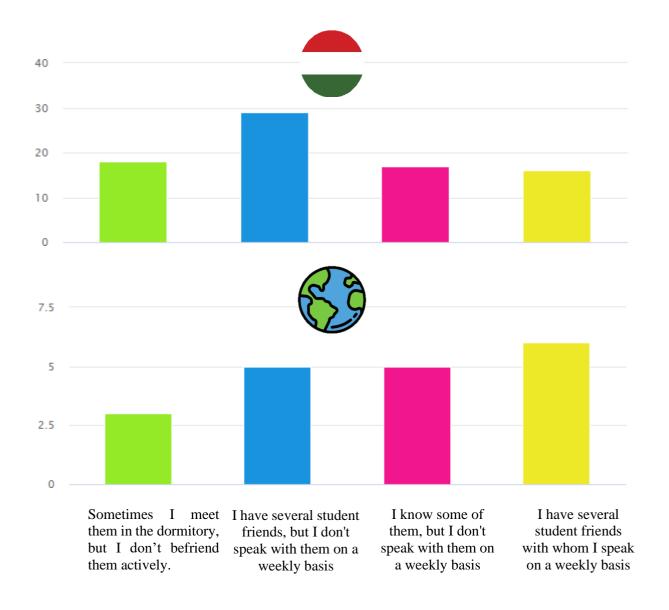


Figure 10: What is your relationship with the other students? Above: Hungarian students with the internationals.

Below: Internationals with Hungarian students Source: self-created

5. Conclusion

Based on the findings of the literature review and the Compost Campaign survey, I would like to mention several suggestions to combat the challenges of dorm environment:

- International students on the peripheral levels of the dormitory could be offered rooms in the middle floor levels to help cultural integration
- "Composting" is missing from or barely present in the curriculum as concept
- Opportunities to motivate students to engage in such a campaign can be as easy as bonus credits, dorm plus points, offered marks, and other material gifts (t-shirts, badges, notepads). Deeper cooperation with the academics of the university may help integrate composting and sustainability topics into the curriculum and the students' lives.
- For the Hungarian students, the courage to engage in intercultural communication is existing, it seems to need a minor additional boost in the form cultural nights, joint cooperation in green projects and university group projects in general.
- There is an already existing composting structure near Mátyásföld dormitory ready to be cultivated, the promotion of this structure and the establishment for a compost supply system from the building of FIMB, paired with the dormitory supplies could contribute to a financially viably amount of composting material.
- The university could cooperate with the-dormitory to prepare students for the scientific conference based on the local campaign and thus granting them valuable research experience while engaging in a sustainability project
- More significant composting involvement in curriculum with increased educational focus between academics and students helps nourish green thinking,

The Mátyásföld Hall of Residence has vast potential to incorporate composting in the everyday life of the residents and the university with relatively low financial and time investment. Future negotiations between the university leadership and the residents is highly advised.

References

(FAO), F. a. (2011). Global food losses and food waste: Extent, causes, and prevention. Retrieved May 2021, from http://www.fao.org/docrep/014/mb060e/mb060e.pdf

Aasa, O., Jesuleye, O. A., & AJAYI, M. O. (2020). Towards Greening Decisions on the University Campus: Initiatives, Importance and Barriers. SSRN Electronic Journal. doi:10.2139/ssrn.3631692

Association, H. F. (2018). Hungarian Food waste statistics report. Retrieved from https://www.elelmiszerbank.hu/hu/rolunk.html

Association, H. H. (2011). Dormitory Composting. Retrieved May 2021, from https://humusz.hu/nullahulladek/civilek/kollegiumi-komposztalas/9632

Bori, P. (2018). The state of food waste in Hungary. Budapest: Agricultural Team of the Embassy of the Kingdom of the Netherlands in Budapest. Retrieved from

https://www.agroberichtenbuitenland.nl/binaries/agroberichtenbuitenland/documenten/rapporten/2018/08/24/food-waste-in-hungary/Food+Waste+in+Hungary+Summary+Report.pdf

Budapest Business School. (2021). Budapest Business School decided for the Model Change. Retrieved from https://uni-bge.hu/en/modelchange

Creighton, S. H. ((1999)). Greening the Ivory Tower. Improving the Environmental Track Record of Universities, Colleges, and Other Institutions. Cambridge: MIT Press,. doi:https://doi.org/10.5860/crl.60.3.292

EKSZ, E. (2021, May). Compost Forum. Retrieved 2021, from https://komposztforum.hu/elte-eksz

Eric Neumayer, E. (2001). Retrieved 2021, from

https://www.researchgate.net/publication/230770855_Overcoming_barriers_to_campus_greening_A _survey_among_higher_educational_institutions_in_London_UK

Eric Neumayer, E. (2001). Retrieved 2021, from

 $https://www.researchgate.net/publication/230770855_Overcoming_barriers_to_campus_greening_A_survey_among_higher_educational_institutions_in_London_UK$

European Climate, I. a. (2021, May). European Commission's webpage. Retrieved 2021, from EU Cinea: https://cinea.ec.europa.eu/life_en

Gyula Kasza, A. D. (2020). Quantification of Household Food Waste in Hungary:. doi:10.3390/su12083069

Kaplan, D. (2007). Traffic Congestion on a University Campus A Consideration of Unconventional Remedies to Nontraditional Transportation Patterns. Society for College and University Planning (SCUP), 12. Retrieved from

https://www.academia.edu/4620044/Traffic_Congestion_on_a_University_Campus_A_Consideratio n_of_Unconventional_Remedies_to_Nontraditional_Transportation_Patterns

Meg L. Small, P., & Emily A. Waterman, M. (2017). Time Use During First Year of College Predicts Participation in High-Impact Activities During Later Years. doi:10.1353/csd.2017.0075

Nadia Korobova, P., & Soko S. Starobin, P. (2015). A Comparative Study of Student Engagement, Satisfaction, and. ©Journal of International Students, 14.

Nagy, A. (2020). Compostfest in Hungary. Budapest. Retrieved May 2021, from https://humusz.hu/sites/default/files/komposztunnep-2020-humusz.pdf

Rowe, A. L., & Whermeyer, W. (2001). Why does the the talk of positive environmental values not match the walk of environmental accountability in Shanghai. Adelaide.

Rutherford, M. (1996). Institutions in economics: The. doi:https://doi.org/10.1111/j.1467-6435.1997.tb02807.x

Sanders, J., Waliczek, T. M., & Gandonou, J.-M. (2011, October). An Economic Analysis of a University. Teaching Methods. doi:10.21273/HORTTECH.21.5.639

Syafrudin, M., Kristanti, R., Yuniarto, A., Hadibarata, T., Rhee, J., Al-onazi, W., . . . Al-Mohaimeed, A. (2021). Pesticides in Drinking Water—A. doi:10.3390/ijerph18020468

University, E. L. (2020). #practical #studentservices. Budapest. Retrieved May 2021, from https://www.elte.hu/en/dstore/document/65/practical%20matters%20ppt.ppt

University, T. S. (2021, April). Department of Agricultural Science. Retrieved 2021, from Bobcat Blend Team: https://ag.txstate.edu/outreach/bobcat-

blend.html#:~:text=Bobcat%20Blend%20is%20a%20faculty,program%20at%20Texas%20State%20University.

William G. Smith, P. (2008). Does Gender Influence Online Survey Participation?:. San José: San José State University. Retrieved May 2021, from https://files.eric.ed.gov/fulltext/ED501717.pdf