MANAGING SUSTAINABLE UNIVERSITIES DURING COVID-19 PANDEMIC

Editors: Riri Fitri Sari, Nyoman Suwartha, Junaidi

UI GreenMetric
World University Rankings

MANAGING SUSTAINABLE UNIVERSITY DURING COVID-19 PANDEMIC

Editors:
Riri Fitri Sari
Nyoman Suwartha
Junaidi

Uk. 21 x 29.7 (x + 232 hlm)
ISBN : 978-979-097-790-7

diterbitkan oleh :
UNDIP PRESS
SEMARANG

For Information:
UI GreenMetric Office
Integrated Laboratory and Research Center (ILRC) Building 4th Fl., Universitas Indonesia, Depok
16424, Indonesia
Telephone +622129120936
Email: greenmetric@ui.ac.id
Website: http://greenmetric.ui.ac.id

Preface

COVID-19 Pandemic is one of the latest disruptions which transformed tertiary institutions on the way it performs teaching and learning, research, and community engagement. In some cases, this great reset created a condition in which universities becomes more environmentally friendly and sustainable. The impacts of this pandemic force all universities to adapt and mitigate the impacts not only in the present but also in the future. To discuss the experiences of several universities on this matter and in order to document the adaptations of sustainability programs many universities, the UI GreenMetric team held the UI GreenMetric International and National Webinar Series on Managing Sustainable University During Covid-19 Pandemic via Zoom Cloud Meeting application and live video streaming via YouTube. This work contains invited papers which has been presented by the university leaders during several webinar series.

The total number of invited speakers in all series was 54 speakers. The presenters were esteemed representatives from universities of UI GreenMetric members (rectors, vice-rectors, sustainability directors, deans, respectful professors). They shared their experience in managing food sufficiency, energy management, teaching, learning, working, waste management, and well-being of all stakeholders to keep performing as a sustainable university during this pandemic.

We hope that this event will provide an opportunity for learning and provide insight into many sustainable university's efforts during the COVID-19 pandemic.

Moreover, this series of event were officially opened by Prof. Ir. Nizam, M.Sc., DIC., Ph.D., Director General of Higher Education, Ministry of Education and Culture.

We convey our greatest appreciation to all distinguished speakers and chairs from Universitas Indonesia – Indonesia, Universitas Diponegoro – Indonesia, University of Oviedo – Spain, Kazakh National Agrarian University – Kazakhstan, IPB University – Indonesia, National Pingtung University of Science and Technology - Chinese Taipei, University of Sousse – Tunisia, University of Zanjan – Iran, El Bosque University - Colombia, University of Bologna – Italy, Bülent Ecevit University – Turkey, Escuela Superior Politécnica de Chimborazo – Ecuador, University of Szeged – Hungary, Seinajoki University of Applied Sciences – Finland, Riga Technical University – Latvia, King Abdulaziz University - Saudi Arabia, Aalborg University – Denmark, Universitas Negeri Semarang – Indonesia, Universitas Sebelas Maret – Indonesia, UIN Raden Intan Lampung – Indonesia, Universitas Gadjah Mada – Indonesia, Universitas Sumatera Utara (USU) – Indonesia, Institut Teknologi Sepuluh Nopember – Indonesia, Universitas Padjadjaran – Indonesia, Universitas Negeri Padang – Indonesia, Telkom University – Indonesia, President University – Indonesia, Brawijaya University – Indonesia, Universitas Hasanuddin – Indonesia, Universitas Islam Indonesia – Indonesia, Universitas Airlangga – Indonesia, Universitas Medan Area – Indonesia, Institut Teknologi Bandung – Indonesia, Universitas Muhammadiyah Yogyakarta – Indonesia, Universitas Halu Oleo – Indonesia, Universitas Lampung – Indonesia, Universitas Multimedia Nusantara – Indonesia, Universitas Bengkulu – Indonesia, Institut Teknologi Sumatera – Indonesia, Universitas Pancasila – Indonesia, Universitas Bangka Belitung – Indonesia.

We thank the conference contributors for their papers. This conference has attracted active participation from many high-rank officials from many universities. Each series was attended by more than 250 participants. We thank all participants and all stakeholders for making UI GreenMetric International and National Webinar Series on The Sustainable University Effort during COVID-19 Pandemic a fruitful event from which the future generation could learn to be adaptive. In the meantime, please stay safe and healthy.

Editorial Team

Riri Fitri Sari, Nyoman Suwartha, Junaidi

Remark – Director General of Higher Education of Ministry of Education and Culture, Republic of Indonesia

Dear Rectors, Vice-Rectors, University Leaders, Campus Sustainability Officers and all stakeholders of worldwide Sustainable Campuses.

Based on the results of THE Impact Ranking 2020, 9 universities in Indonesia have been included in the ranking list this year. This a proud moment for Indonesian Universities. In addition, we highly appreciate the achievement of Indonesian universities to compete with the best campuses in the world in the UI GreenMetric World University Rankings developed by Universitas Indonesia. I am happy to learn that our campus is very active in achieving SDGs through research and student activity units. The benchmarking platform is a very good platform for us to encourage and continue to develop and advance.

During pandemics, we work from home and learn from home, which in fact encourages development and learning in a short period of time and with extraordinary results. The distance learning program that had been pushed since the 2000s was underdeveloped. However, suddenly in a very short time the various platforms for online learning developed rapidly during the Covid-19. In fact, the previous distance learning process was only a sweetener and an alternative to learning, but now it has been adopted by 98% of Indonesian universities. We once conducted a survey with respondents of around 270 thousand students. It was seen that even though they were still hobbled, the effectiveness of learning from home was quite good.

Once again I would like to congratulate the campuses included in the THE Impact Ranking and also on UI GreenMetric World University Rankings. I really hope our campuses can dominate in UI GreenMetric as well. Apart from that, I also thank the tertiary institutions for their efforts to mitigate Covid-19. After the Covid-19 pandemic, we will be required to be able to inspire and accelerate economic and social recovery of our nations. I wish that we can support and collaborate further to go beyond this great disruption and make out campuses even more sustainable than before.

All in all I would like to thank all authors and contributors to this highly authentic book and UI GreenMetric with their highly appreciated initiative.

Prof. Ir. Nizam, M.Sc., DIC., Ph.D.
(Director General of Higher Education of Ministry of Education and Culture)

Remark – Rector of Universitas Indonesia

Dear Rectors, Vice Rectors, University Leaders, Campus Sustainability Officers and all participants.

The University of Indonesia proudly organised among the first webinar series conducted to gather university leaders in the world during the COVID-19 pandemic. The invited speakers are highly respected university leaders from the UI GreenMetric University Rankings Network. The total number of individual participants during all those 2 international webinars are 720 participants, from 43 countries, such as Bangladesh, Brazil, Bulgaria, Chile, Colombia, Ecuador, Guatemala, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Jordan, Kazakhstan, Lebanon, Malaysia, Malta, México, Pakistan, Palestine, Panamá, Poland, Portugal, Russia, Saudi Arabia, Slovakia, Slovenija, South Africa, Spain, Sweden, Taiwan, Thailand, The Netherlands, Tunisia, Turkey, Ukraine, United Arab Emirates, United Kingdom and United States. In addition there are 1.022 participants from 280 universities in Indonesia during UI GreenMetric Indonesia Webinar Series.

I wish you all a constructive and productive time during pandemic COVID-19 and hope your stay safe and healthy.

Prof. Ari Kuncoro, S.E., M.A., Ph.D
(Rector of Universitas Indonesia)

List of Contents

Chapter 1.4:
The University of Szeged and the Impacts of the COVID-19 Pandemic

Dénes Mátyás[10], László Gyarmati[11] and Ildikó Csóka[12]

The spread of COVID-19 has had radical impacts on the operation of higher education institutions. The University of Szeged, one of the leading universities in Hungary, Central Europe, adapted itself to the unprecedented pandemic situation in all its main pillars of operation: education, research, "third mission" activities, and high-quality medical care. Measures and actions included: transition to remote work, switch to online education, COVID-19 research projects, establishment of an epidemic hospital, H-UNCOVER nationwide screening, sustainability efforts and energy usage reduction. Thanks to conscious strategic planning, challenges could be handled efficiently, and quality performance was uninterrupted. Certain tools and practices are worth of consideration even in post-pandemic times as potential areas for development.

1.4.1. Introduction

The COVID-19 pandemic has had radical impacts on the operation of higher education institutions. The present paper intends to give an insight on how the University of Szeged, one of the leading universities in Hungary, Central Europe, adapted itself to the new and highly unusual circumstances caused by the pandemic in order to ensure its uninterrupted quality performance. For that aim, it first provides a short introduction of the University of Szeged, and then it discusses the most significant measures and actions taken during the pandemic in the Institution's main areas of operation.

1.4.2. University of Szeged, Center of Science and Innovation

The University of Szeged (Szegedi Tudományegyetem, SZTE) is one of the largest higher education complexes in Hungary, a research university with 12 faculties where about 21,000 university students enrich their knowledge including more than 4,000 international students. The Institution offers quality education on all levels (BA/BSc, MA/MSc, undivided, doctoral, higher-level vocational and postgraduate specialist training programs) in the fields of agriculture, arts and humanities, economics and business administration, informatics, engineering, medicine and healthcare, pharmacy, dentistry, social sciences, natural sciences, law, education and music.

[10] D. Mátyás
University of Szeged, 6720 Szeged, Dugonics tér 13., Hungary
e-mail: matyas.denes@rekt.szte.hu

[11] L. Gyarmati
University of Szeged, 6720 Szeged, Dugonics tér 13., Hungary
e-mail: gyarmati.laszlo@tik.u-szeged.hu

[12] I. Csóka
University of Szeged, 6720 Szeged, Dugonics tér 13., Hungary
e-mail: csoka.ildiko@rekt.szte.hu

International full-time programs have been offered at the University since 1985; currently more than 60 programs are in its portfolio in English or in other foreign languages. SZTE is active in 700 research areas with 19 doctoral schools, and it runs or participates in numerous national and international research groups covering all scientific fields.

Being the main intellectual center and the largest institution in the Southern Great Plain region in Hungary (with more than 8,000 employees, including 2,200 teachers and researchers), the University of Szeged is in close cooperation with the society and the economy of the region and the country. It considers its main responsibility to play active part in facilitating regional social, economic and cultural development, while protection of the environment and sustainability are also banners of its policy. SZTE's vision and quality policy are built on harmonizing the following four pillars: education, research, "third mission" activities, and high-quality medical care.[13] All these areas have surely been affected by the COVID-19 pandemic, but thanks to excellence operation and conscious strategic planning, challenges could fortunately be handled efficiently.

1.4.3. Before and After the Introduction of the State of Danger

In Hungary, state of danger was declared by the Government on 11 March 2020 (Government Decree 40/2020) [4]. That meant the introduction of various measures with the aim of preventing the spread of the novel coronavirus infection. At the same time, citizens were encouraged to stay home and avoid personal contacts as much as possible, as it generally happened in other countries affected by the pandemic as well.

Certain measures had been taken at the University of Szeged already preceding the introduction of the state of danger (concerning e.g. travels to the territories affected by COVID-19, visits of international delegations, students' attendance or non-attendance of lectures etc.), issued in circulars by the Rector and the Chancellor and/or by the SZTE Coronavirus Operative Committee. The mentioned Committee was also formed still before March (in February), while a professional group had been set up and operational even earlier (from January) so that the situation could be addressed timely, effectively and in a comprehensive manner, including its medical, legal, administrative, technical and IT aspects.

Information letters and circulars kept being issued also after the declaration of the state of danger so that university citizens (students, teachers, researchers, administrative staff) be continuously updated and well informed. With a similar aim, a "Focus: COVID-19" section was made available at the University's website both in its Hungarian and English versions.

As a general and overall goal, SZTE aimed with all its preventive actions – certainly not much differently from other institutions – to minimize contacts to the greatest degree possible.

[13] SZTE being a competitive, high-quality institution is proved also by its excellent results on global rankings. To mention only some of its positions: it is the 1st Hungarian institution according to *QS World University Rankings* (501-510th on the global list) [1]; it is the greenest HEI in Hungary in *UI GreenMetric Ranking* since 2010 (74th in 2019) [2]; it is among the 101-200 best universities and 1st in Hungary on the comprehensive list of *THE Impact Rankings* examining the economic and social impact of HEIs (moreover, SZTE is the only Hungarian institution ranked among the 300 best universities in the world in all 17 Sustainable Development Goals, with 1st or tied 1st places for 13 SDGs in Hungary) [3].

1.4.4. Impacts on Work and Employment

The objective to keep contacts minimal had the University face challenges, among others, regarding work and employment. SZTE's primary aim was to continue its quality functioning in the new circumstances as well, and it considered as of highest priority to do so by maintaining possibly all employment relations.

Major measures in this regard included the transition to remote work for as many employees as possible. Such transition required that appropriate home office conditions be ensured for all university employees able to perform their work remotely. That meant serious IT background developments not only in the electronic administration and study management systems at SZTE (Coospace, Neptun, Modulo) providing online administration, the publication of study materials, channels for student–lecturer, student–student and lecturer–lecturer communication, but also in the teleconference infrastructure in order to enable the use of highly practical programs and applications (e.g. Coospace, Zoom, GoToMeeting) so that online lectures, seminars, meetings, Faculty Sessions, Senate Sessions etc. could be smoothly delivered.

At the same time, an eventual re-arrangement of some work activities may have also been necessary in some cases and at some faculties, institutes or departments. That implied an intention to put different emphasis on certain activities respect to the amount of focus they had received before the outbreak of the pandemic (e.g. literature review and publication activities vs. laboratory work, and similar temporary changes of perspective needed due to the new working conditions).

1.4.5. Impacts on Education and Research

The pandemic and the state of danger brought radical changes in the area of education as well and lead to a prompt need to switch to online education. That necessity arose quite suddenly, but fortunately the University had already been preparing – and thus had already had detailed plans – for the introduction of the online education system also independently of COVID-19 (even though it was certainly to make improvements in this regard more gradually and in a longer run). Among others: online education developments were continuous, online learning materials and methodologies were available and/or under development, the concept of blended learning was unknown neither for educators nor for students. All that did considerably help the shift to online education go fast and smoothly as well as the spring semester studies continue as originally scheduled.

With the COVID-19 pandemic, some 21,000 students were suddenly to acquire their course materials online in over 15,000 courses. To make this massive scale change possible in a coordinated way and to support the successful delivery of the spring term, an SZTE Operative Committee on Online Education was formed on 12 March. The spring break, primarily scheduled for 10-17 April, was moved to 14-22 March in order to provide enough time to make the necessary preparations for switching teaching and learning online from 23 March. Faculties, institutes and departments also prepared their online education action plans. Developments made to the education and administration systems (Coospace, Neptun, Modulo) to ensure that they meet international standards in online education have already been mentioned above. A COVID-19-specific chatbot was also launched on the University of Szeged Facebook page providing information about changes in teaching and learning due to the pandemic and the state of danger (concerning the length of the semester, thesis defense sessions, and so on). The university library

(SZTE Klebelsberg Library) made further extension of their electronic services and freely available e-resources. Besides all that, the institutions of public education of the University of Szeged did of course switch to online learning as well.

Some "special" resources available at the University of Szeged, which proved to be highly useful in online education, are also worth mentioning. Such a resource is for example *Coursera for SZTE* that offers free-of-charge access to a wide range of courses and course materials (as well as certificates upon successful completion) thanks to the cooperation agreement with Coursera, the world's biggest online educational platform with nearly 4,000 courses in 19 languages from the best universities and companies [5]. Coursera contents can successfully complement SZTE curricula and be integrated fully or partly into SZTE courses, thus providing exceptional opportunities during "normal" and pandemic times alike. Another unique resource definitely to mention is constituted by the online courses, trainings and virtual mobility opportunities provided by one of the first European Universities alliances, endorsed by the European Commission, called European University Alliance of Global Health [6]. EUGLOH involves 200,000 students from five leading European universities (Université Paris Saclay, Lund University, University of Porto, Ludwig-Maximilian University of München, University of Szeged) and aims to promote European values and identity as well as to revolutionize the quality and competitiveness of European higher education by creating an integrated multicultural campus to increase students' employability, mobility and adaptability to future challenges, and building the European University of the future: innovative, interdisciplinary, inclusive and integrated in local research and innovation ecosystems.

As regards research activities, these were mostly uninterrupted at the University of Szeged. Although university buildings could not be visited by students[14] (except for certain students in their final year in specific study programs, some doctoral students, and students with a public servant status with SZTE), researchers basically kept having access to university facilities – following the appropriate health and safety precautionary measures of course. SZTE's participation in more than 30 research projects on COVID-19 is also important to note. Among these, several projects are joint researches (with the Hungarian European Clinical Research Infrastructure Network – HECRIN Consortium, the Biological Research Center of the Hungarian Academy of Sciences in Szeged etc.), and they have various research foci including prevention, diagnosis, treatment of mild and severe cases, rehabilitation. Apart from these, a COVID-19 Epidemiological Analysis and Modelling Response Team supported by the Ministry for Innovation and Technology is also operational at the University. Furthermore, the five partner institutions of EUGLOH just won a research and innovation grant in July with the project entitled "The European Alliance for Global Health – Transformation through Joint Research and Innovation Action" (EUGLOHRIA) which aims to develop, besides education, the research and innovation dimension of the Alliance with a focus on global health crises and pandemic research (especially COVID-19 research).

[14] Hungarian students were also required to leave university dormitories and return home short after the declaration of the state of danger.

1.4.6. Impacts on Healthcare

The University of Szeged is the knowledge center of the Southern Great Plain region in Hungary and it feels responsible for the health standards of the population of Szeged and of the region. The Albert Szent-Györgyi Health Center, as part of the University, successfully coordinates healthcare-related activities in research and development, clinical and pharmacological examinations, basic and further training in medical disciplines, patient therapy. It provides patient care as a priority activity for approximately 250,000 people, while its progressive patient care services reach more than one million people in the region.

During the COVID-19 pandemic, the general goal of the Albert Szent-Györgyi Health Center and the University remained to provide patient care both for infectious and non-infectious patients. At the same time, it is certainly also true that with the break-out of the pandemic and the introduction of the state of danger focus fell primarily on emergency healthcare treatment so that contacts between doctors and patients be minimized. Within the Health Center, an epidemic hospital got established in March with beds for patients suspected or diagnosed with upper respiratory infections, including intensive care beds with artificial ventilation support. Some weeks later, an emergency unit with over 100 beds was set up also in two halls of the ELI-ALPS Research Institute in Szeged for the treatment of patients in critical conditions, in case the epidemiological situation would require, in order to reach the number of beds defined by the epidemiological plan of the University and the public health emergency protocol.

Moreover, the University of Szeged was one of the four Hungarian medical universities (together with Semmelweis University, the University of Debrecen, and the University of Pécs) that participated in the H-UNCOVER nationwide coronavirus screening program to test a representative sample of about 17,000 people in Hungary. Besides the successfully delivered H-UNCOVER project, SZTE provides also further testing in the region (for healthcare workers, university staff, social care institution staff and residents etc.), and the Institution is ready to participate in the next eventual rounds of nationwide screenings, should they become necessary.

Some other initiatives important to mention during the state of danger include hotlines and helplines launched at the University: for instance, the student information hotline (from 10 March) with information available 24/7 concerning the coronavirus disease and health-related issues both in English and in Hungarian language, or the psychiatric and psychological helpline provided by the Department of Psychiatry of the Albert Szent-Györgyi Health Center offering support for psychiatric and psychological patients and their family members in relation to the coronavirus pandemic.

1.4.7. Impacts on Sustainability

Sustainability is an area of high concern for the University of Szeged where some positive impacts of the pandemic situation can surely be observed, e.g. in the decreased energy usage of university buildings. To give a concrete example, at SZTE's education and congress center, the József Attila Study and Information Center, electricity usage dropped by 53% compared to that of the same period in the previous year (March-June). This amount of energy saving equals to 124 metric tons of CO_2 emission reduction in that particular building.

Green developments continued during the recent months as well. Thanks to the successful cooperation with the Ministry for Innovation and Technology, the University obtained five electric cars as well as two fast (22kW) chargers, enabling the charging of four vehicles at the

same time, to substitute some of the most driven, less efficient diesel cars. Using these electric cars in urban areas can enhance the reduction of airborne dust concentration, which has a positive effect on air quality in Szeged. With this improvement, the calculated annual CO_2 emission of the Institution's car fleet dropped by 16,000 tons, which is equivalent to a 15% reduction of direct emissions caused by the use of cars.

As discussed above, the COVID-19 pandemic crisis changed some "traditional", in-person teaching methods at universities from one day to another, leading to numerous innovations and developments. Eventually, this digital transformation resulted in a decreased need of travelling, commuting, electricity and HVAC systems use by students, academic, research and administrative staff.

1.4.8. Concluding Remarks: Beyond the COVID-19 Pandemic Crisis?

The state of danger was terminated in Hungary by the Act LVII of 2020 [7]; at the same time, a state of epidemiological preparedness was introduced by the Government Decree 283/2020 [8]. Both documents were issued on 17 June and entered into force on the following day. At the University of Szeged, measures changed accordingly (concerning remote work, travels, the entrance to university buildings, the organization of events, the reception of international visitors etc.), and currently (July 2020) the Institution plans to start the fall semester with regular, in-person education – although the situation may still easily change as it is well known. All relevant information continues to be published on the University's website in order to keep university citizens updated, just as the majority of the impacts and measures described above are also available there [9].

If it is possible to talk about some positive impacts of the unfortunate pandemic situation, these will surely concern among others: enhanced digital capacities, new ways of teaching, new tools for communication and collaboration, enhanced online library use, decreased energy usage in various university buildings. It is also worth mentioning that, according to students' feedbacks, a certain flexibility in the study schedule and flexible access to course contents, active communication, varied study materials, visual and auditory media and video homeworks were generally positively received in terms of online education. Besides these, e-methodologies, open book examinations and similar aspects may also be worth of consideration as potential areas for future development as much in online as in in-person education. Moreover, the digital transformation offers an opportunity also for the further improvement of sustainable operation by considering tools and practices worthwhile to keep after the pandemic situation in order to maintain energy efficient solutions and decreased CO_2 emission in the long run.

References

[1] QS Quacquarelli Symonds, 2020. QS World University Rankings 2021. Available online at https://www.topuniversities.com/university-rankings/world-university-rankings/2021, accessed on 10/07/2020.

[2] UI GreenMetric, 2019. UI GreenMetric World University Rankings – Overall Rankings 2019. Available online at http://greenmetric.ui.ac.id/overall-rankings-2019/, accessed on 10/07/2020.

[3] Times Higher Education, 2020. THE Impact Rankings 2020. Available online at https://www.timeshighereducation.com/rankings/impact/2020/overall, accessed on 10/07/2020.

[4] Hungarian Government, 2020. Government Decree 40/2020 (11 March) on the declaration of state of danger. Available online at http://njt.hu/translated/doc/J2020R0040K_20200326_FIN.pdf, accessed on 10/07/2020. In original language: 40/2020. (III. 11.) Korm. rendelet veszélyhelyzet kihirdetéséről. Available online at http://njt.hu/cgi_bin/njt_doc.cgi?docid=218449.381011, accessed on 10/07/2020.

[5] Coursera for SZTE. Available online at https://u-szeged.hu/english/coursera, accessed on 10/07/2020.

[6] EUGLOH – European University Alliance for Global Health. Available at https://www.eugloh.eu/, accessed on 10/07/2020.

[7] Hungarian National Assembly, 2020. Act LVII of 2020 terminating the state of danger. Available online at https://njt.hu/translated/doc/J2020T0057P_20200618_FIN.pdf, accessed on 10/07/2020. In original language: 2020. évi LVII. törvény a veszélyhelyzet megszüntetéséről. Available online at https://net.jogtar.hu/jogszabaly?docid=a2000057.tv, accessed on 10/07/2020.

[8] Hungarian Government, 2020. Government Decree 283/2020 (17 June) introducing a state of epidemiological preparedness. Available online at https://njt.hu/translated/doc/J2020R0283K_20200618_FIN.pdf, accessed on 10/07/2020. In original language: 283/2020. (VI. 17.) Korm. rendelet a járványügyi készültség bevezetéséről. Available online at https://net.jogtar.hu/jogszabaly?docid=a2000283.kor, accessed on 10/07/2020.

[9] University of Szeged – English language home page. Available online at https://u-szeged.hu/english, accessed on 10/07/2020. Hungarian language home page: Szegedi Tudományegyetem. Available online at https://u-szeged.hu/, accessed on 10/07/2020.