Students' Perspective on Sustaining Education and Promoting Humanising Education through e-Learning

A Qualitative Focus Group Study

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Abstract—**The COVID-19 pandemic has shifted the education sector towards an e-learning approach to sustain education. Sustaining student education through e-learning significantly impacts student learning experiences and outcomes, which can be influenced by e-learning infrastructure, e-learning materials, and learning engagement. The concept of humanising education refers to the learning process that reflects students' moralities and values. Focus group discussion is a practical approach to assess students' perspectives on sustaining and humanising their education through e-learning. This qualitative focus group study aimed to discuss the e-learning factors that will sustain education and promote humanising education in the virtual learning environment. Thirty students from Information Technology (IT) and business fields have participated and provided a different view on sustaining education through e-learning. Thematic analysis was used to analyse the focus group data. Five themes were identified: (1) e-learning technologies and infrastructure; (2) e-learning principles: pedagogy and materials; (3) health and wellness; (4) equality; and (5) engagement: communication and collaboration. The analysis enlightened the e-learning design for sustainable e-learning. In addition, this paper outlines how the findings support sustainable development goals.**

Keywords—Education; sustainability; humanizing education; sustainable e-learning

I. INTRODUCTION

The COVID-19 pandemic has shifted students learning into the online environment to sustain education. Despite of this, the pandemic has exposed education inequalities among students due to lack of access to devices and Internet connection. Consequently, the pandemic has affected the world 2030 agenda for sustainable development in 2015 that intend to improve public health, education, and economic growth while reducing inequality and poverty [1].

In 2021, the Sustainable Development Goals (SDG) report indicated that most of the progression of the goals had been affected due to the pandemic [2]. This is not limited to education only, but also caused lingering threat to food systems, public health, global workforce, and economy [2,3]. Continuous threats were later reported in the SDG report 2022 [4]. Moreover, the pandemic has prolonged health effect among everyone around the globe due to lung and heart scarring. Since many have lost their loved ones due to the COVID-19 pandemic, the health and well-being among the society are worrisome. E-learning has become the main drive to support student's education as it is believed to reduce the

transmission of COVID-19. To sustain education through e-learning, SDG [1] on (1) SDG#3: Good Health and Well-being; (2) SDG#4: Quality education; (3) SDG#9: Industry, Innovation, and Infrastructure; and (4) SDG#10: Reduced inequalities need to be considered.

Even though e-learning helps students to continue their studies throughout the pandemic, there is an alarming increase in mental illness among students. Since the COVID-19 outbreak, a high percentage of depression and anxiety among the Malaysian population aged above 18 years was reported in 2020 [5]. This finding was supported by [6], which indicates the high percentage of depression, anxiety, and stress among higher education students in Malaysia. The research aims to discover students' perspectives on sustaining their education and promoting humanising education through online learning environment. The research findings indicated that the five themes provide insights on designing online education that cater the student's learning ability as a human being and a learning environment that nurture good health and well-being. The outcomes from this research will support the development on SDG#3: Good Health and Well-being and SDG#4: Quality Education through e-learning. This study is organized as follows: literature review, methods, results and discussions, and conclusion.

II. LITERATURE REVIEW

E-learning has been introduced for decades before the COVID-19 pandemic outbreak. Many educational institutions have adopted e-learning; however, e-learning was mainly used as an education resource repository where students can obtain learning materials. Indeed, the COVID-19 pandemic has pressured education institutions to fully migrate to online learning to sustain learners' education. Many studies were conducted on e-learning during the pandemic. However, there are challenges among students, instructors, and institutions to migrate to e-learning. Furthermore, the new norm of online education has also led to health issues such as mental health, depression, and physical health.

Since the pandemic, a huge number of studies have been conducted on students' perspectives on e-learning during the COVID-19 outbreak, see Table I. Many methods such as online survey, literature review, structural equation modelling, and qualitative phenomenological approach were used to identify the impact of e-learning on its stakeholders during the pandemic. Based on these findings, most are concerned with

how e-learning impacts the students' health, education structure, e-learning policies, and teaching and learning styles.

TABLE I.   THE LIST OF PREVIOUS STUDIES ON STUDENTS' PERSPECTIVES ON E-LEARNING DURING THE PANDEMIC

Methods	Findings
Online survey	The status of mental health among university students was greatly affected during the pandemic. Most students have a good perception of e-learning [6].
Literature review	The COVID-19 global lockdown has changed the accessibility and structure of education [7].
Questionnaire survey	Faculty members have a positive attitude toward e-learning for disabled students as e-learning promotes education interaction during the pandemic [8].
Structural equation modelling	Factors of E-learning quality during the COVID-19 pandemic are assurance, reliability, responsiveness, and content [9].
Structural equation modelling	Teachers' online instructional innovation and creativity improve students' engagement [10].
Qualitative phenomenological approach	Inconsistency and awareness in e-learning policy directions on e-learning during the COVID-19 pandemic needs to be acknowledged [11].
Survey	Usability, interaction, and quality would motivate students to use the e-learning system during the COVID-19 pandemic [12].
Systematic Literature Review (SLR)	Network infrastructure, hardware requirements, implementation complexity, and training requirements are the factors for online exam endorsement [13].
Systematic Literature Review (SLR)	Attention is needed on Information and Communication Technology (ICT)-based teaching methods for learning Islamic education. Policymakers should develop better policies for Information Technology (IT) awareness and acceptance [14].
Online survey	The impact of the COVID-19 lockdown on students' mental health due to self-isolation using e-learning [15].

The findings on Table I indicate the need for support systems that enrich student wellness. Furthermore, wellness among students in aspects of physical, social, spiritual, emotional, and intellectual health need to be neglected. A report indicates that 76% of students and 73% of staff highlighted that sustaining their well-being is the main challenge [16]. Some universities have implemented health education programs to support students' academics by promoting and maintaining a healthy and positive lifestyle [17, 18, 19]. At the same time, wellness among university staff was considered by many universities such as Curtin University [19], International Islamic University Malaysia [20], Monash University Malaysia [21], and The University of Texas of Austin [22], to name a few, which provide services and support for their staff well-being.

Table II shows the findings on students' wellness and education development during the pandemic [23, 24, 16, 25, 26]. The statistics of negative impact on students are alarming. Consequently, these issues are detaining the development of the SDG especially on promoting quality education and good health and wellbeing. Based on SDG report in 2022 [4], the global learning crisis has worsened due to severe education system interruptions caused by the COVID-19 pandemic. Many countries have invested huge amount of money to recover the education services and facilities and focus on improving the education as many education institutions are re-

open. However, the report indicates that there is a lack of psychosocial support for students in which only 20 per cent of countries provide support for student's mental health and psychosocial. Not only among students, but also among young people around the world due to limited access to mental health care service. The report suggested that it is crucial to include mental health support as part of the post pandemic plans. Therefore, this significant measure is essential for the education institutions to consider due to rapid increase of depression and anxiety issues among students.

TABLE II.   REPORTS ON WELLNESS IN HIGHER EDUCATION IN 2020

Author	Year	Report	Wellness issues
Healthy Minds Network and the American College Health Association	2020	The Impact of COVID-19 on College Student Well-being.	66% report on financial stress and mental stress.
Eisenberg, Lipson, Heinze, Zhou, Talaski and Patterson	2020	The Healthy Minds Study: Fall 2020 Data Report	79% depression, 68% anxiety,11% eating disorder, 42% feel loneliness in some of the time, and 13% on suicidality ideation.
Salesforce.org	2020	Connected Student Report: Insights into Global Higher Education Trends from over 2,000 Students and Staff.	Financial anxiety and mental health among students
Baldwin, Towler, Oliver II and Datta	2017	An examination of college student wellness	Emotional wellness (stress issue) is the top challenge, followed by Physical wellness (health behavior)
Curtin University	2016	Curtin Wellbeing Surveys	28.8% depression or anxiety 27.5% suicidal thoughts

Thus, to reduce the gaps between mental performance and mental health, there is a need of a support system that tackles both education and wellness to achieve sustainable education. In addition, the introduction of humanizing education concept can become the inspiration to improve students learning and health. Since the use of e-learning continues along with traditional learning, e-learning may have the potential to promote humanize education while improving students' well-being.

III.   METHODS

This study aims to investigate how e-learning can sustain education and promote humanized education through focus groups discussion to assess students' perspectives on sustaining their education and promoting humanising education through e-learning. This study used a qualitative research approach to acquire student perspectives. Qualitative methods [27] have been widely used to identify students' needs and perspectives. Thirty students were selected and participated in the focus group discussion. The participants are from various areas of study such as Law, Business, Education, Health Science, and Engineering. The participants from different disciplinary were selected to obtain a different view on sustaining education through e-learning. The participants

were divided into six groups, where each group consisted of five members. The allocation of the group members was done randomly. The participants' demographic data were collected, and descriptive statistics were used to describe the participants' demographic data. However, this paper will focus on the qualitative data obtained from the focus group. Qualitative method was adopted due advised by Hasselblad and Olsson [28] on their publication that qualitative data is necessary to access user opinions on using technology. Thus, to analyse the qualitative data, qualitative coding was applied to increase the analysis validity, fair contribution of opinions among the participants, and transparency on reviewing data analysis.

Semi-structured interviews were implemented since it enables flexibility in achieving the research questions and explore the participants' perspectives [29] on e-learning potential in sustaining education and promoting humanizing education. Table III presents a set of open-ended questions for a semi-structured interview that was developed to facilitate the focus group discussions. Discussions were conducted online via Microsoft Teams and Nearpod for an online collaboration board for 45 minutes. The focus group started with a general question on the use of e-learning during the pandemic and later to a more focused one, covering e-learning accessibility, materials, activities, and impact. During the focus group discussions, participants' opinions were based on their own words and thoughts. The participants were informed that the data from the focus group discussions would be used for research and publication.

Thematic analysis was used to analyse the qualitative data to report themes. This analysis was used due to its practical data analysis approach for the qualitative method [4,30]. Recorded online focus group discussions were transcribed, and data from the Nearpod was generated. Along the focus group discussion, mind map was produced for each interview session to track the topics and sub-topics that were highlighted. These mind maps which represent the themes and highlighted issues, later assisted the data analysis. The use of this mind maps practice in qualitative data analysis was supported by Fearnley [31] that indicates the use of mind map in qualitative data analysis, will provide transparent and broader view of contents discussed in interviews.

TABLE III.   THE OPEN-ENDED QUESTIONS WERE PREPARED PRIOR TO THE FOCUS GROUP DISCUSSIONS

| No.	Main questions
1.	What are your perspectives on learning in an online learning environment?
2.	What were your expectations of e-learning and the use of mixed reality?
3.	Did you aware of e-learning limitations?
4.	How can e-learning help you to sustain your education?
5.	What are your perspectives on humanising education?
6.	How can e-learning help you to experience humanistic education?
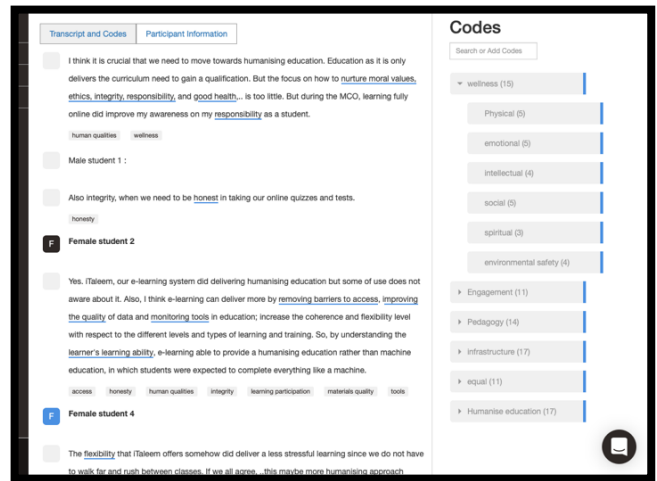
Fig. 1.   Screenshot of Qualitative Coding Process using Delve Qualitative Analysis Tool.

The transcripts were uploaded to Delve qualitative analysis tool and codes were identified. Fig. 1 shown above is an example of one of the transcripts that was analyzed using Delve. A combination of deductive and inductive coding approaches was used where the data analysis started with the inductive coding with codes were developed from the themes categories and the data. To increase the data validity and reduce potential biases, the second round of analysis was conducted using deductive coding in which the analysis start using the codes generated in the first round of analysis. The transcriptions were read again to assign excerpts to codes. Then, inductive coding applied with new codes. These new codes were later categorized into the themes.

IV. RESULTS AND DISCUSSION

Results were taken from the six focus groups. There were 30 participants between the ages of 20 to 25 years. Among the 30 participants, 13 were males, and 17 were female students. They are from five areas of study: Law, Business, Education, Health Science, and Engineering. Based on the focus group discussions, this research found that many students prefer online education as it offers more flexibility, time-consumption, interactive activities, and e-learning materials.

The participants' satisfaction level is high on the flexibility offered by e-learning since students can access their learning activities anytime, anywhere. Participants believe that e-learning reduces their transportation time to a physical class. E-learning allows students instantly access their online class without spending time driving or walking to class. In comparison with learning activities in class, e-learning activities are more attractive. The use of an online collaboration board, forum, and quiz, allow students to re-access the exercises again. Participants believe that they participated more in online class activities than in physical class activities. Some participants have more confidence in learning in an online environment since they cannot see people they believe will look down on them. Since e-learning provides a repository for learning materials, students have more access to attractive materials such as videos, audio on case studies, and reading materials. However, they are not

satisfied with the social environment because of their inability to feel the student life on campus.

The qualitative data analysis from the focus groups identified five main themes pertaining to sustaining education through e-learning: 1) e-learning technologies and infrastructure, (2) e-learning principles, (3) health and wellness, (4) equality, and (5) engagement. Table IV outlines the main themes and sub-themes.

Main Themes	Sub-themes
E-learning technologies and infrastructure	Network and connectivity, tools, hardware, software, service, immersive technologies, and emerging technologies.
E-learning principles	Pedagogy and materials quality
Health and wellness	Physical, emotional, intellectual, social, spiritual, and environmental safety.
Equality	An inclusive learning environment, equal learning participation, accommodating of different learning styles and disabilities, and fair use of technology.
Engagement	Communication, collaboration, and social interaction

A. E-learning Technologies and Infrastructure

E-learning infrastructure is essential to ensure online learning takes place without any interruptions. The potential loss of internet connection or poor internet connection may create barriers for students to perform online learning. The second concern raised by students was the support service.

"..removing barriers to access, improving the quality of data and monitoring tools in education; increase the coherence and flexibility level with respect to the different levels and types of learning and training. So, by understanding the learner's learning ability, e-learning able to provide a humanising education rather than machine education, in which students were expected to complete everything like a machine." (Male student).

Most students from the focus groups expressed their online learning environment as an interactive way to learn. Some of the students noted that the variety type of learning materials and activities have made e-learning more engaging compared to face-to-face learning. Even though some of them confessed that e-learning have lack of communication and social engagement, a few of the students disagreed and remarked that e-learning provide wider social connectivity.

"I communicate with more people via e-learning and I am more engaged with my group assignment discussion by using e-learning chat…. I think my connectivity will be limited if I only meet people in my classes." (Female student).

A few students pointed out that the use of immersive technology could extend students' learning experience and discover a real-world situation beyond the classroom. This could enrich human sense and quality. Furthermore, VR is believed to provide higher learning opportunity on international exposure due to VR ability to simulate real-life learning environment that are beyond the classroom. This finding tally with Ignatius [32] perspective on how digitalisation should be integrated together with basic human skills and values to re-humanising education.

"Mixed reality can provide more learning exposure on international business practice and technology development and implementation." (Female student).

"The use of virtual reality or augmented reality can increase learning outcome since it allows students to do some tasks beyond the classroom." (Male student).

Interestingly, a few students proposed AI as a coach in e-learning that will provide advice on students' learning progress and recommend healthy learning styles.

"I wish e-learning can help me to advise me to become a better person. It can teach or guide me to become ethical person by give me some information what good or bad practice are. Maybe the use of AI technology in e-learning will help me to increase my human values." (Female student).

Students wanted e-learning as a system that would take care of their education and health at the same time. They believe e-learning should be a system where they can continuously learn even after graduation. E-learning should be a technology that allows them to learn how to improve their knowledge, skills, moral values, and health. A student suggested that the use of AI may assist on learning to be an ethical person rather than just academic matters. Students also pointed out that the e-learning tools should be easy to use and do not require a lot of internet data, which may lead to crashes during online learning activities. Further advantages of VR and AI will be discussed specifically in the following themes.

B. E-learning Principles

Overall, the course syllabus, assessments, and learning outcomes are the same when conducting an online or physical approach. However, the evaluation methods, such as instructions and rules, need to be communicated to the students. A proper lesson plan needs to be shared with the students. Interestingly, a student pointed out that students should prepare their own study plan to organise their studies between online classes. The e-learning materials should be in good quality, attractive and easy to access. Nimehchisalem [33] also discovered that education could be humanised by ensuring the classroom materials were developed with both a human approach and a discovery approach, in which the curriculum can cater to a learner's needs.

"Make sure the content in e-learning is more attractive and easier to access to all students. It is also important to consist of ethical values to ensure students are aware of ethical practice in business and developing technology." (Male student).

"… the project or assignment should not be based on the textbooks or any other reading material. Our learning activities or exercises should promote creative thinking towards a better world. I think if we aim for better world that create harmony relationship between people and environment, then maybe that what it means by humanizing education……. so, e-learning can deliver this by provide some online learning interactivity that promote creative thinking towards making better future and provide some case study on climate change

crisis so that we are aware of the climate change impact in our future." (Female student).

Some participants were worried about the massive number of materials available in e-learning as it consumed more time to study than the indicated student learning time (SLT) in the course outline. Thus, this leads to health issues that lead to stress, anxiety, fatigue, headache, and eye strain. Students believe that awareness of ethics and values is important for them to learn in humanising education. In direction of humanizing education through e-learning, a few students suggested that e-learning content should correspond to promoting moral values and sustainable practices. Awareness and knowledge on best practices, ethics, morality, and values need to be delivered through e-learning activities and materials as a guide toward humanized future leaders.

"…to promote humanizing education, we should not look at education is a way to get more money in the future. It should be look as a way to make our planet and environment better. For example, most people think that business and entrepreneurship are about making a lot of money and be rich. It should create thinking on how business will help our economy become more stable and provide better service and product to our community to improve life and our environment. So, I think e-learning can provide some awareness on this since it can deliver a variety of digital information to the student.".

This may increase the quality of education for all that supports the fourth SDG. The finding also indicates that moral values need to be added as part of education quality criteria, which is supporting Balakrishanan [34], Juhary [35], and Khilji [36] statements.

C. Health and Wellness

Due to online learning during the COVID-19 lockdown, mental health has become a significant concern. Students had substantial concerns about their health in terms of physical and mental. The tremendous amount of time spent online learning has led to physical health problems such as eye strain, back pain, and headaches. The vast amount of learning tasks has caused mental health issues such as stress, depression, and anxiety.

"Be more concern with the student's mental and physical health and help them to keep motivated to sustain the quality of the education. Lectures can play a role as an online motivator." (Female student).

"e-learning can integrate the use of AR or VR to allow active learning that involve movements rather than just sitting on a chair that are causing back pains and bad body posture."

A participant pointed out that the lecturer could play a role in motivating the students through the learning process. It should be noted that the SLT should be revised for the online learning approach as it involves high contact with the computer screen and less body movement. In addition, a student suggested that e-learning should not only consist academic achievements but also the summary of achievements of soft skills and wellness criteria, that will reflect humanise

education. One student added that students need to be treated and educated as human to humanizing education.

"We are not a robot or a business product… to create humanizing education we need to be treated as human who have limitation in performing tasks and remembering things. We do not have the energy to learn the whole day. We go to class during daylight and do our homework at night."

Due to the increasing of mental illness among students [16], the findings from the focus group discussions recognized a few factors that cause a decline in the student's health, namely feeling isolated, lack of social activity, screen time, and learning materials. Thus, to ensure the students to perform better learning achievement and to support the recommendation by the United Nations in the Sustainable Development Goals 2022 Report [4], there is a need to redesign the e-learning materials, activities, and infrastructure as an alternative to provide health and psychosocial support to overcome the health and wellness issues among students.

D. Equitable

Since e-learning was used before the pandemic, some students have accessed e-learning using their personal computers or university computers. Equal access to e-learning is important for students to be able to access all the e-learning materials without any problem. For instance, as pointed out by a participant:

"Looking at the pandemic impact on our education, e-learning has saved us in sustaining our education…..I also believe e-learning provide equality education to both female and male, or even young and old learners." (Male student).

"Basic education like learn to use software and hardware need to be free and accessible for everyone. Like Finland, their education is free and there is no exam or grades that make them compete."

Due to the COVID-19 lockdown and strict movement control order, some students do not have access to e-learning as they do not afford to buy their own personal computer. This is an issue for those students to sustain their education during the pandemic. Some participants suggested government funds and donation programmes provide a personal computer to those unfortunate ones to sustain their education. The post-pandemic has led to an unstable economy, affecting many educational budgets. Thus, to sustain education on international exposure, the use of virtual reality could provide an opportunity for students to learn abroad virtually.

"The use of virtual reality and augmented reality can reduce education difference among students since this mixed reality will allow all students to have the opportunity to discover about other countries' development by virtually travelling there. This will reduce unfairness for some students who were unable to travel abroad to discover new things." (Female student).

E-learning provides a platform that can allow everyone to have opportunity to learn and have an enduring education throughout a lifetime. However, e-learning need to be accessible and provide free basic education to public. This will ensure that no one gets left behind regardless their location

and lifestyle status. The emerging technology such as VR could provide balance the number of students who obtain international exposure during their learning experience.

E. Engagement

An online learning environment may provide flexibility in communication and collaboration. Participants agreed that online activities such as collaboration boards, forums, and quizzes are more attractive and easier to re-access for revision. Some students highlighted that the online activities engaged their social and emotional learning as they are more confident learning online.

"The relationship between students and teachers should be established to promote learning engagement. For example, teachers should give personal feedback on online assessment rather than just computer-generated feedback." (Female student).

"Like Pokemon Go, the use of augmented reality has changed the game experience and increased gamers engagement since it is more attractive. So, I think mixed reality will promote better learning engagement since the learning experience will be beyond the classroom." (Male student).

The use of virtual and augmented reality in education was believed could sustain student learning and promote humanising education. To support this finding, the use of virtual experience needs to be reviewed together with human processes, experiences, and ethics, as suggested by Trkman and Cerne [37]. Furthermore, the use of chat in e-learning improves interactions between the students and lecturers as it provides fast feedback and response. However, this interaction may increase students' engagement if the lecturer responds promptly to the chat or instant messaging. Students were worried about their interaction more with their devices than people, and they are concerned if their learning process does not lead them towards a humanising education. Losing social interaction in campus life was the primary concern expressed by students during the focus group discussions since this may lead to an educational environment without soul. This relates to Razak [38] statement on the importance of education with soul in humanistic education. Instead, online learning during the pandemic feels like a factory production of learners. Students were given tasks without knowing their challenges learning online during the pandemic. Some students highlighted the need to be in a campus environment to enhance their social networks and improve their mental and physical health, which supports their learning engagement.

V. CONCLUSION

This study identified five themes, namely e-learning technologies and infrastructure, e-learning principles, health and wellness, equality, and engagement that could sustain students' education and promote humanistic education using e-learning. Furthermore, the concept of humanizing education can relate to the student's ability to sustain their education. For students to sustain their education through e-learning, the design of the online learning course should consider students' health, learning time, learning styles, engagement, and emerging technologies that can assist in delivering education

with soul. The e-learning system needs to be publicly accessible to deliver essential education to everyone.

Furthermore, a participant indicates that a sustainable education can be achieved if equal access to quality education is provided. Thus, an e-learning infrastructure should provide a good network, sufficient learning tools and a support system to ensure students can access their learning without interruption. Also, the university needs to ensure that students have a compatible device to access e-learning. The e-learning courses should be designed to meet different student's backgrounds.

The use of mixed reality is able to promote the concept of humanising education. The e-learning materials need to be attractive and interactive to sustain the education quality. In order to make education humanised, e-learning materials and content need to be designed based on students' personal learning styles. As a result, these five themes supported the SDGs, hence, sustaining education and promoting a humanising education. Overall, students in this study appear to have high acceptance and satisfaction levels in using e-learning. Also, they believe that e-learning has fulfilled their learning needs to sustain their education during the pandemic. This study suggests future studies on improvements in quality assurance on online learning to ensure balance between intellectual, emotional, spiritual, and physical aspects. Future research could focus on developing a support system that look after students' mental health and motivate their lifelong learning to ensure sustainable and humanistic education. The findings in this paper could lead to new education support systems that considers both mental and mind performance and health. Consequently, this will lead to the development of sustainable, healthy, and prosperous communities.

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