MULTI-HAZARD RESILIENCE OF HIGHER EDUCATIONAL INSTITUTIONS IN ASIA PACIFIC

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MULTI-HAZARD RESILIENCE OF HIGHER EDUCATIONAL INSTITUTIONS IN ASIA PACIFIC

DISASTER RISK REDUCTION EDUCATION FOR TRANSFORMATION, ADAPTATION, AND RESILIENCE OF HIGHER EDUCATIONAL INSTITUTIONS

Lessons and Case Studies from COVID-19 Pandemic

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Disclaimer
All presented case studies conducted by the authors are based on primary and secondary data analysis. The main objective of this publication is to share challenges, lessons learned, innovative practices, etc. in preparedness, response, and recovery before, during, and after the COVID-19 pandemic through case studies for better future preparation and resilience in Asia Pacific and beyond. The publisher, editors, and contributing authors do not have any claim over the approaches and achievements shared in the studies.

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FOREWARD

The profound impact of the COVID-19 outbreak, along with unprecedented occurrences of hazards, has necessitated adaptation across sectors worldwide for survival during the crisis. In parallel, higher education institutions (HEIs) have undergone transformative changes to ensure access to quality education, maintain educational continuity, and support workforce development for labor markets. This shift involves transitioning from traditional teaching methods to digital and online modes, alongside the postponement or cancellation of academic events such as admissions, graduation ceremonies, and examinations.

However, these changes have come with challenges. HEIs have grappled with financial and operational constraints due to preventive measures, including institution closures. These disruptions have far-reaching consequences, affecting not only institutions but also curriculum, academic schedules, pedagogy, and the well-being of academic staff and students. The impact extends to psychological, emotional, financial, and social dimensions, influencing intellectual development, future employability, and personal growth.

The response and adaptation efforts exhibited by HEIs during the COVID-19 pandemic, reflecting multi-hazard resilience, offer invaluable insights that can significantly enhance disaster prevention, mitigation, preparedness, response, and recovery capabilities within this context. Recognizing the importance of these experiences, the collaboration between the International Centre for Integrated Mountain Development (ICIMOD), the Asian Institute of Technology (AIT), and the Tata Institute of Social Sciences (TISS) underscores the need to harness these lessons.

This collaborative endeavor aims to facilitate the exchange of challenges, lessons learned, and innovative practices in preparedness, response, and recovery across various stages of the COVID-19 pandemic and beyond, through the presentation of comprehensive case studies. The primary goal is to cultivate stronger preparation and resilience among HEIs for future crises. Furthermore, this initiative underscores the critical role of disaster risk reduction education within the higher education system, recognizing it as an essential element of disaster preparedness.
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MULTI-HAZARD RESILIENCE OF HIGHER EDUCATIONAL INSTITUTIONS IN ASIA PACIFIC

DISASTER RISK REDUCTION EDUCATION FOR TRANSFORMATION, ADAPTATION, AND RESILIENCE OF HIGHER EDUCATIONAL INSTITUTIONS

Lessons and Case Studies from COVID-19 Pandemic
INTRODUCTION

Disaster Risk Reduction Education for Transformation, Adaptation, and Resilience of Higher Educational Institutions

Indrajit Pal
Jacquleen Joseph
Bateswar Das
Kullanan Sukwanchai
## Introduction

Global educational institutions have been striving to enhance the effectiveness, sustainability, and inclusivity of education for all members of society, regardless of their social status, caste, gender, religion, or economic position, especially in line with the Sustainable Development Goals (SDGs) (Goal 4). The objective is to achieve these goals by 2030. However, the emergence of the COVID-19 pandemic and its prolonged effects have significantly set back educational institutions, resulting in substantial losses. The impact has been particularly severe in underdeveloped countries or those in the global south. The pandemic has exposed a significant digital divide between urban and rural populations, as well as disparities between informal settlements in cities and privileged groups, underscoring stark differences in terms of human rights, access to basic necessities, and governance failures in meeting the needs of marginalized communities.

In the context of COVID, the primary focus concerning education has been on education loss, academic continuity, internet connectivity and capability, awareness training, physical, technical, and psychological aid, contingency planning, risk mitigation and planning, safety and security Issues, International students and revenue loss, and the use of HEIs as quarantine centers. Beyond the loss of education and knowledge-building, the effects of this catastrophe also have an impact on the social and cultural value of education, as well as interpersonal relationships (Pal, Shaw, et al., 2022). It is vital to understand that there are other options besides alternative techniques for maintaining educational continuity that can be used to foster resilience and minimize such crises. Similar to how addressing health hazards on its own is insufficient, and interventions also need to promote social cohesiveness and be culturally competent (Slobodin & Cohen, 2020). Lessons learned from the COVID-19 pandemic emphasize the necessity for alternative initiatives that support a society, inclusive of all community members, with intersections across various economic groups and genders. This approach can enable equitable access to necessities for the impoverished and empower them to build resilience against future crises.

To be able to explore such alternatives in the context of higher educational institutions in Asia-Pacific, we draw from the following theoretical standpoint to understand the issue of differential impacts on HEIs in the Asia-Pacific region in the context of the changing value of education.
Theoretical Standpoint

Universities or HEIs, since their Humboldtian reinvention, are identified as institutions striving to incorporate more people into education to prevent the consolidation of knowledge as intellectual property, the epistemic point of affirmative action (Fuller, 2003). The onslaught of globalization, the decline of nation-states, and increasing expansions, access, and diversification of knowledge in the 21st century have witnessed the ideological shift from the idea of knowledge as a public good to that of a private good. Thus, with the increasing emphasis on the knowledge society, the economic value of knowledge has gained significance over its social and cultural values/purpose.

Every government aspires to harness universities to the service of a knowledge society, and thus universities face increasing pressures to keep pace with the demands and changes of a knowledge society. The nature of transitions that these ideological shifts bring about is critically captured using concepts such as the service university, Mc University, innovative university, corporate university, academic capitalism, entrepreneurial university, university as a shopping mall, degree mill, transnational bureaucratic corporations, or patent factory, among others. "New Managerialism" introduces the ideas and methods of the private sector in the public sector, short-sighted profit-seeking, priority for customers' needs, efficiency, calculation, predictability, control, competition, and marketization, among others, capture the essence of the transition required of university spaces (Currie and Newson, 1998).

The questioning of the relevance and significance of higher education institutions is a historical process very similar to current-day debates. The current demands for changes and reforms of universities are an extension of the demands of the 1960s, in response to the discontent with HEIs being too internally oriented and preoccupied with research. The demands have been for the renewal of internal governance, to bridge the HEI-Society Gap, and an enhanced focus on teaching and learning using new interdisciplinary pedagogies to help students become relevant and attractive in the job market. The emphasis on market readiness and the economic value of education has detrimental implications for HEIs and the society they serve. More than the economic value of knowledge in the current day's knowledge society, the inverted form of the proposition is of grave significance. Lack of knowledge and inability to keep pace with rapidly changing knowledge are penalized more than before.
Thus, with the growing significance of the economic value of knowledge, the social and cultural values of knowledge for those likely to be adversely affected by the economic rationale are to be reinvented in the given context of consumerism, globalization, and capitalism within the academic spaces. It is from this perspective that we attempt to document the experiences of HEIs in the Asia-Pacific region in the context of COVID–19.

COVID–19, Education and HEIs

The COVID–19 pandemic has revolutionized the global educational system, especially in higher education. With in-person attendance no longer feasible, virtual learning has become the "new normal." As a result of this change, various online learning strategies and work-from-home policies have been investigated and adopted. Globally, educational authorities, governmental agencies, and businesses have emphasized the importance of the online learning system to ensure that pedagogy aligns with students' interests. The majority of educational institutions have transitioned from on-site to online instruction (Mishra et al., 2020).

Significant research and development efforts are being directed towards improving education, aiming to enhance its efficiency, accessibility, and resilience against future uncertainties, alongside the progress in vaccinations and medical technology. The potential benefits to humanity from these advancements are substantial. However, the disadvantages faced by marginalized groups, who have experienced educational setbacks due to various risks, such as the COVID–19 pandemic, must be addressed.

Regardless of an individual's socioeconomic background or geographical location, concerted efforts should be made to bridge the digital divide and ensure equitable access to online learning opportunities. Furthermore, measures should be taken to support underprivileged students who might encounter additional challenges in accessing online education, such as lacking necessary tools like devices and internet connectivity. It is also imperative to consider the potential impact on the social and cultural dimensions of education in a virtual learning environment. Exploring how the development of inclusive and engaging online learning spaces can mitigate the erosion of social connections and cultural values is crucial.
By addressing these challenges and ensuring that the advantages of virtual education are accessible to all, we can harness its potential for societal progress. This entails addressing these issues and ensuring that virtual education benefits everyone. Prioritizing the needs of underprivileged groups and working toward their social and cultural empowerment is pivotal, enabling them to regain their significance in the face of various challenges, including the COVID-19 pandemic (Devara, 2020).

The significance of virtual learning as a pivotal element of higher education in the post-COVID era has been underscored by recent studies and research. Despite its global reach, significant barriers still impede its implementation in areas beyond urban centers, thus hindering universal educational access. Moreover, a sole focus on online education can compromise educational quality, necessitating supplementary support beyond digital platforms (Tulza, 2020).

The evolution of remote or distance learning, which has extended education to remote populations, has bolstered the appeal of virtual learning. However, the pandemic has exacerbated the reliance on virtual education, potentially leading to unforeseen consequences such as a profound erosion of cultural diversity, social inclusion, and individual social development. Drawing valuable lessons from this crisis is imperative to cultivate future resilience, preparedness, and effective crisis management in educational governance and social initiatives.

Addressing the impediments to virtual learning, such as the digital divide and limited infrastructure in remote regions, can promote equitable educational access. Recognizing the limitations of online learning and prioritizing holistic student development are equally vital. This can be achieved through a comprehensive approach that melds online learning with real-world application, experiential learning, and community engagement, ensuring that the educational system fosters social, cultural, and personal growth (Devara, 2020).

The integration of technology should be bolstered by programs and policies that dismantle access barriers and advance inclusivity, enabling individuals from all walks of life to leverage online education. Ensuring that educators possess the essential skills to offer high-caliber virtual education necessitates substantial investments in capacity-building and teacher training programs.
Ultimately, by learning from the challenges wrought by the COVID-19 pandemic, we can fortify social movements and educational systems to better prepare for forthcoming crises, preserving the resilience and effectiveness of educational governance while affording primacy to social, cultural, and individual aspects of learning.

The development of robust guidelines, contingency plans, and future resilience strategies can all be facilitated through documentation, which assumes paramount importance in crisis management within the higher education sector. Contemporary research underscores the significance of documenting the diverse COVID-19 management strategies employed by higher education institutions across the Asia-Pacific region. This research seeks to forge new avenues for these institutions to delve into multi-hazard resilience building.

Since the 1990s, higher education institutions around the world have received recognition for their economic contributions to their respective countries. However, their social and cultural values have often been overlooked. The pandemic has underscored the substantial social and cultural contributions that these institutions have made to human civilization over generations. This highlights the necessity for a more nuanced evaluation of educational services, one that extends beyond purely economic growth criteria. As such, this study seeks to garner insights into the following emergent themes, organically derived from each case study and contextual setting:

- Social Inclusion in the Context of COVID-19 Beyond Quantitative Metrics
- Investment in Faculty Training and Pedagogy
- Role of Edutech Companies Amidst the COVID-19 Context
- Understanding Faculty Reluctance and Resistance to Online Education
- Voices of Marginalized Students and Faculty
- Advantages and Disadvantages of Technology-driven Learning, Particularly Online Learning
- Interface of Privatization and the Impacts of COVID-19
- Adaptation and Recovery from COVID-19 Considering Pre-existing Financial Challenges and State Withdrawal
- Exponential Growth of Online Education and Its Implications for Specific Disciplines
- Dropout Rates in Online Education, Especially Amidst the COVID-19 Crisis
• Research Implications
• Significance of Campus Life
• Long-Term Implications and Indicators of HEIs' Adaptation and Resilience
• Revisiting Universal Criteria of Adaptation and Resilience
• Importance of Campus Life, Face-to-Face Interaction, Socialization, and Networks in Student Growth and Development
• Balancing the Business of Teaching and Learning with Meaningful Knowledge Construction

A Glimpse of the Five Case Studies and the Chapters

A series of five case studies were conducted on Higher Education Institutions (HEIs) in the Asia-Pacific region, encompassing Nepal, India, Australia, and Afghanistan. These case studies aimed to underscore the pivotal role of documentation in formulating crisis management plans, especially in the context of the COVID-19 pandemic. Additionally, the case studies highlighted the significance of HEIs in advancing societal and cultural development.

By scrutinizing the diverse strategies employed during the pandemic, HEIs can extract valuable insights into their achievements, challenges, and shortcomings. Utilizing these documents as the foundation for future crisis management planning can better prepare higher education institutions for analogous crises. Moreover, this emphasizes the importance of recognizing and preserving their unique organizational and cultural traits, showcasing the broader societal benefits that these institutions yield, transcending mere economic considerations.

The research conducted across the Asia-Pacific region serves as a cornerstone for comprehending the unique experiences and methodologies adopted by HEIs in diverse contexts. This insight assists in the formulation of comprehensive crisis management plans that account for the distinct difficulties and opportunities encountered by institutions across different geographical areas. Documentation proves pivotal in advancing crisis management within higher education, enabling institutions to construct robust action plans. By acknowledging these contributions and documenting HEIs' experiences during the pandemic, we foster a deeper understanding of their cultural and societal accomplishments, ensuring their enduring influence in the face of emerging challenges.
Two of the case studies provide insights into the challenges faced by higher education institutions in Nepal during the COVID-19 outbreak and the measures adopted to sustain educational services during crisis management. In the first case study, the Kathmandu University School of Education (KUSOED) showcases its experience and highlights the disparities in pandemic management between urban and regional/rural institutions.

Nepal, a landlocked nation susceptible to various natural disasters such as avalanches, floods, landslides, and earthquakes, is predominantly comprised of rural areas with limited economic growth and minimal industrialization. KUSOED adeptly transitioned to online learning due to its prior experience in virtual classes and familiarity with platforms like Moodle and Google Meet when the pandemic necessitated the closure of educational institutions nationwide. The institute demonstrated its commitment to student and faculty safety and well-being by collaborating with the COVID-19 response team to provide ambulance services, hospital facilities, and counseling support. KUSOED also prioritized equipping individuals less familiar with online learning systems through training sessions and provided students and teachers with 500GB data packs for continuous online learning.

In contrast, the second case study presented a different scenario in rural areas, where only 13% of institutions with ICT infrastructure—out of the available 35% —could transition to online learning. A mere 40% of survey participants perceived online education as an effective learning method, with the majority expressing dissatisfaction. This underscores that online education isn't universally efficient for learners. It became evident that relying solely on technology was insufficient; traditional educational principles encompassing social and cultural values needed integration. Additionally, the online system struggled to offer practical and technical instruction, impeding students' employability and career development prospects. The case study identified challenges such as resistance among older, conventionally trained instructors to virtual teaching, language barriers, and the lack of opportunities for interpersonal development due to limited exposure to traditional university campuses.
These case studies underscore the disparities in acceptance and efficacy of online learning between urban and rural areas in Nepal. While certain institutions, like KUSOED, adeptly adapted to online education, the challenges faced by rural institutions regarding infrastructure, training, linguistic obstacles, and the limitations of online learning underscore the requirement for a more comprehensive approach. To foster comprehensive education and equal opportunities for students across regions, future strategies must address digital divides, incorporate cultural values, and provide experiential learning.

The case study centered on the University of Newcastle in Australia provides insights into the impact of the COVID-19 pandemic on a well-established institution situated in a developed region of the global North. The institution, taken by surprise due to the unprecedented circumstances, swiftly responded by implementing a complete campus lockdown and establishing a COVID-19 critical incident team. This team was tasked with vigilant monitoring and precise management of the situation in alignment with government directives. The university encountered specific challenges in predicting and tackling the challenges posed by the pandemic, largely due to its diverse student population hailing from over 118 different nations.

The university efficiently deployed an online learning management system (LMS) to facilitate remote education, leveraging its digitally friendly environment. Advanced IT applications, VPN systems, and social media platforms like WeChat and WhatsApp were utilized to communicate with international students, teachers, and staff. These platforms also served as avenues for training in building resilience measures to ensure educational continuity. Concurrently, the university implemented proactive measures, including an employee assistance program, a comprehensive staff management system, and counseling support, addressing the physical and mental well-being of vulnerable groups. Additionally, faculty members received training support. The university extended its support to students through funding, food bank facilities, and data accessibility.

Despite existing infrastructure and effective adaptability measures, the university incurred substantial economic losses due to reduced international revenues and digital disparities. However, educational service provision remained relatively intact, even though the research community encountered challenges in data collection and global research dissemination.
This case study underscores the significance of robust digital infrastructure and proactive measures in mitigating crisis impacts. The University of Newcastle's smooth transition to online education, coupled with adept utilization of digital communication tools and comprehensive support for students and staff, underscores the value of preparedness and resource allocation in crisis management. Yet, the financial setbacks encountered by the university due to diminished international revenues highlight the vulnerability of higher education institutions to global disruptions. Furthermore, the struggles faced by the research community, particularly in terms of data collection and worldwide visibility, underscore the complexities of conducting research during a crisis.

Overall, the University of Newcastle case study emphasizes the importance of adaptability, proactive measures, and holistic support networks in minimizing the impact of the COVID-19 pandemic on higher education institutions. It also sheds light on ongoing challenges confronted by educational institutions, such as the necessity for financial stability, digital access, and continuity of research projects during global crises.

The case study from the Gujarat Institute of Disaster Management (GIDM) in India underscores the pressing need to democratize disaster risk reduction (DRR) knowledge. The deficiency of understanding and awareness of disaster management at the local institutional level poses challenges in effectively implementing measures to mitigate risks associated with crises like the COVID-19 pandemic. This knowledge gap renders society more susceptible to disasters, underscoring the importance of democratizing DRR and crisis management knowledge on a global scale through online training programs or certification courses. GIDM introduced courses in Gujarati, in addition to English, recognizing the necessity for vernacular language-based education to localize knowledge dissemination. These seminars aimed to disseminate DRR information, risk assessment, vulnerability analysis, and exposure comprehension to the general public, aligned with the Sendai Framework for Disaster Risk Reduction (SFDRR), which views disaster management as a collective responsibility. The study underscores the challenges encountered in designing these courses, along with the notable contrast in student success rates between Gujarati and English courses.
The transfer of ownership from the Government of India to Samagra Siksha under the Centrally Sponsored Scheme (CSS) through the pre-existing government structure facilitated the swift spread of DRR knowledge and resilience-building. The study underscores the challenges encountered in designing these courses, along with the notable contrast in student success rates between Gujarati and English courses. The transfer of ownership from the Government of India to Samagra Siksha under the Centrally Sponsored Scheme (CSS) through the pre-existing government structure facilitated the swift spread of DRR knowledge and resilience-building. The key takeaway is the effectiveness of utilizing the government system and its collaborative potential, illustrating how enhanced international and national collaboration can democratize knowledge and enhance capacity.

It is necessary to recognize that digital disparities and varying learning capabilities continue to pose significant challenges. Digital platforms and resources are not equally accessible to all individuals, which can limit their engagement and hinder the effectiveness of their learning. Despite this, the efforts undertaken by GIDM to democratize DRR information and bridge the knowledge gap underscore the ongoing need to mitigate vulnerabilities to disasters. Therefore, the case study on the Gujarat Institute of Disaster Management emphasizes the importance of locally institutionalizing DRR knowledge. The study demonstrates how disseminating DRR information widely can be achieved through vernacular language-based courses and leveraging existing government infrastructure. However, to truly democratize knowledge and cultivate resilience against catastrophes, addressing digital inequalities and ensuring equitable access to education and resources are pivotal factors that must be addressed.

The Kabul Public Universities case study in Afghanistan underscores the critical significance of disaster risk reduction (DRR) knowledge and its implications for the nation. Due to inadequate crisis management capabilities, Afghanistan, exposed to geographical vulnerabilities and frequent risks, encountered substantial challenges during the COVID-19 pandemic. The study highlights that a lack of a skilled disaster management team, knowledge gaps concerning disasters, and the absence of a disaster risk management program in higher education institutions render the country susceptible to terrorism, enduring natural disasters, and socioeconomic conflicts.
The study also illuminates how socioeconomic inequalities, poverty, and cultural apprehensions can amplify the impacts of disasters. Political instability, gender inequality, and a lack of awareness regarding the importance of disaster risk management contribute to the vulnerability of women, especially.

Of the respondents in various Kabul Public University institutions, over 75% reported experiencing risks, and more than 30% indicated awareness of the social and economic factors contributing to disasters. However, only 10% engaged in disaster response, and merely 7.6% participated in early warning drills. These results suggest a weak connection between participants' knowledge of DRM and its practical application.

The case study emphasizes the need for further analysis to support DRR education and awareness campaigns in Afghanistan. To enhance national DRM knowledge, attitudes, and practices, it underscores the necessity for collaboration between the government and higher education institutions. By equipping people and communities with the knowledge and tools to handle emergencies, such efforts can mitigate the catastrophic effects of disasters. The case study on Kabul Public University concludes by stressing the urgent need to enhance measures for reducing disaster risk in Afghanistan. The nation can bolster its resilience and minimize the devastation caused by hazards by addressing knowledge gaps in disasters, establishing effective disaster management teams, and supporting DRR education and awareness programs. A more inclusive and equitable approach to disaster risk management must also acknowledge and rectify social injustices, gender inequality, and economic disparities.

The case studies underscore the importance of collaboration between the public sector, government, and business sectors to effectively foster resilience. Disaster risk management emphasizes the significance of individual decisions rather than solely relying on regulatory bodies or government agencies, aligning with the principles of the Sendai Framework for Disaster Risk Reduction (SFDRR) (Hewitt 1983; De Milliano 2015; Gaillard and Mercer 2013). In the context of higher education institutions (HEIs), where shared research and innovation are integral, collaboration is particularly vital for learning from global practices and facilitating a "build back better" approach.
A pioneering study examining how higher education institutions (HEIs) responded to the COVID-19 pandemic was conducted by the Tata Institute of Social Sciences (TISS) and the Asian Institute of Technology (AIT), funded by the Integrated Mountain Development (ICIMOD). Post-pandemic, collaborations between academic institutions and community initiatives, such as community universities, can play a pivotal role in promoting community-based learning and addressing social and cultural disparities, ultimately enhancing crisis management efforts (Couillou et al. 2022).

The findings of this study will significantly advance existing research on the evolving landscape of educational activities and the trajectory from the pre-COVID to the post-COVID environment. Previous research (Sabates et al. 2021) underscores the critical need for longitudinal evaluations of the pandemic's impact, particularly concerning learning loss. This study specifically underscores the importance of such evaluations in South Asia's underdeveloped and disadvantaged regions. The conclusions of the study provide a robust foundation for further research aimed at establishing stronger and more resilient frameworks for higher education.
References


CASE STUDY 1

COVID-19 Management of the University of Newcastle and Lasting Innovations

Iftekhar Ahmed
Thomas Johnson
Liyaning Maggie Tang
COVID-19 Management of the University of Newcastle and Lasting Innovations

I. Background

This case study focuses on the COVID-19 management initiatives of the University of Newcastle (UON), Australia. It follows a chronological sequence in line with the unfolding of the pandemic over a period of two and a half years and discusses the management strategies concerning students, staff, government policy, and innovation. The University’s response helped to reduce financial impact, support staff, and student welfare, and produce long-lasting innovation. This case study demonstrates many lessons learned that could inform other higher education institutions in times of major disruption.

1.1 Timeline

On the 25th of January 2020, Australia announced its first confirmed case of COVID-19 (Commonwealth of Australia, 2020), and by the 10th of March 2020, the 100th case of COVID-19 in Australia was announced, along with the declaration of a global pandemic by the World Health Organisation (WHO). These announcements occurred within the third week of Semester 1 in 2020.
UON had been monitoring the situation carefully and, from the 28th of January, had established a COVID-19 Critical Incident Team to monitor and plan for the rapidly changing situation. Under the guidance of this team, UON implemented a series of measures, including a transition to online learning and health and well-being measures in line with changes in government advice and regulation. Please see Appendix 1, which details the sequence of events and the University’s responses and management during 2020-2021, two peak years of the pandemic, at the end of which the COVID-19 Critical Incident Team was concluded, signaling the end of the emergency period.

II. Aims and Objectives

The aim of this chapter is to present the case study of the University of Newcastle, Australia, and its response to the COVID-19 pandemic, along with the key public health measures as they happened. This chapter will seek to achieve four objectives to accomplish the aim above, these are:

1. To discuss the key educational initiatives undertaken by UON
2. To discuss the decisions relating to staff management during the pandemic
3. To Identify the key innovations in response to the pandemic
4. To discuss the key challenges faced during the pandemic

III. Lesson Learned

In 2022, students and staff returned to campus. Despite the persistence of the pandemic and mutated variations of the virus impacting more significant numbers of people, the nationwide high vaccination rate has provided the confidence to resume a ‘business as usual’ approach. Nonetheless, alert systems and support provisions remain in place. Despite some ongoing support provisions, we can now look back on the response to the COVID-19 pandemic and identify the lessons learned.

3.1 COVID-19 management relating to students

On the 25th of January 2020, Australia announced its first confirmed case of COVID-19 (Commonwealth of Australia, 2020), and by the 10th of March 2020, the 100th case of COVID-19 in Australia was announced, along with the declaration of a global pandemic by the World Health Organisation (WHO). These announcements occurred within the third week of Semester 1 in 2020.
The most important management element was transitioning from on-campus classes to online mode. From early 2020 to the end of 2021, classes were conducted online. Training became necessary, and students were provided with a range of resources and support to make the transition. The University already had an online delivery option in some of its programs, for example, Construction Management and the Master of Disaster Resilience and Sustainable Development with which the authors are affiliated, and for these programs, the transition was easier than other programs that were previously only on-campus.

Thus, challenges arose for programs that relied on on-campus delivery, for example, architecture design studios and science/medical laboratories. Various innovative measures were developed for online delivery for these programs, however, the outcomes were sometimes sub-optimal. The fully online mode also created challenges for students from low socio-economic backgrounds and regional areas with limited access to affordable technology and quality internet connections.

UON provided support for students during the pandemic, particularly focusing on welfare and mental health. On the academic support side, UON decided that any students who fail a subject in Semester 2 or Trimester 3, 2021, would not have a ‘fail’ (FF) recorded on their academic transcript. If students could not meet the requirements to pass a course, they instead received a WW grade on their transcript. These grades would not adversely affect a student’s GPA. This action was brought in to remove unnecessary anxiety.

Additionally, students enrolled in courses in Semester 2 or Trimester 3, 2021, were eligible to receive an automatic 14 calendar day extension for any one assessment item due on or before Monday, 4 October 2021, within each of their courses, without having to submit a formal Adverse Circumstances application for extension. This action was taken to save the time and effort of students in submitting extension applications and waiting for approval.

It also aimed to remove unnecessary anxiety from students and provided more flexibility with assessment deadlines. If students required additional extensions or an extension for assessment types excluded from the automatic extension option, they could continue to use the normal Adverse Circumstance application process, noting the relaxation of supporting documentation.
Normally, in an Adverse Circumstance application, a written statement from the student and a medical certificate or Justice of Peace (JP) signature were needed as supporting documents. However, in the way, UON responded to COVID-19, a written statement without needing a medical certificate or JP signature as supporting documentation could be accepted. This action helped release the pressure on the medical system when students needed to approach their doctors for a medical certificate. It also saved students’ time in collecting and providing those supporting documents.

For domestic students transitioning into their undergraduate degree in 2021, UON provided free personalized learning support. Students would participate in orientation activities where they could meet other commencing students as well as academic mentors online and on-campus to have a successful transition to university with free bridging and refresher courses during an extended orientation period. On the life support side, UON helped international students return to campuses to continue their studies when the Australian border was closed in 2021. At UON, students represent 113 nations across the globe. The University has been working collaboratively with the NSW Government and the Federal Government to help over 200 continuing students per fortnight return to Sydney to quarantine.

Due to sharing flights with other Australian universities, the allocation was around eight students in the first instance. Other support measures for international and domestic students included a student hardship fund, a food bank for vulnerable students, and an offshore student mentoring program. Personalized support to students, such as providing groceries, clothing, and toiletries, and even organizing emergency housing and helping students find jobs, were provided to students when staff reached out to check on students’ situations in 2020 and 2021. Chat groups in social media such as WhatsApp and WeChat were set up to build a sense of community among both international and domestic students, especially during the lockdown periods.

### 3.2 COVID-19 management relating to staff

A range of measures was implemented, and resources were provided for staff, including both academic and administrative staff. Pre-COVID, academics already had a higher level of flexibility in work timings compared to administrative staff.
Therefore the transition to working from home was easier for them. Arrangements of borrowing computers and equipment to use from home and VPN-based access to IT facilities were among some of the key provisions. Additionally, academic staff was provided training services and support for online teaching. By mid-2021, campuses had to be vacated with the proliferation of the Delta variant; however, a strategy for minimal staffing on campus was followed to maintain essential operations and security. To reduce pressure on staff, a roster was followed.

Among the various measures relating to staff included emergency protocols during COVID restrictions; revised safety induction; de-escalation training; proposals for capital works including gas storage; ICT safety in design; environmental investigations; and resourcing to enhance early intervention for psychological health and safety. Even with a comprehensive suite of COVID management strategies, which reduced infection and spread, there were impacts on staff in their research and teaching activities; by mid-2021, Employee Assistance Program (EAP) sessions for staff seeking psychological support had risen by 30% from the beginning of the year.

Special attention was and is still being given to staff who are vulnerable or at a higher risk of developing or having severe symptoms of COVID-19. This includes people aged 70 years and over, people aged 65 years and over with chronic medical conditions, all people with compromised immune systems, and Aboriginal and Torres Strait Islander people over 50 years with chronic medical conditions. Staff members in this vulnerable or higher risk category are recommended to discuss with their supervisor or manager about their circumstances and available option. This may include undertaking a risk assessment before returning to work on campus, or alternatively, continuing to work remotely while the COVID-19 risk is high in the community. Other options appropriate to specific circumstances are also considered such as reduced or modified work hours.

Furthermore, support is made available if a staff member or their manager/supervisor needs assistance understanding the available options. In such cases, the University may request supporting medical evidence and/or request staff to consult with their medical practitioner. This can be required to ensure that any restrictions or limitations that may impact the staff’s ability to perform the duties of their role are fully understood, and UON can then ensure that they are provided with appropriate support.
If staff test positive for COVID-19 and are too unwell to work, they can then claim personal leave for the period required for recovery. They may be required to provide supporting medical evidence in accordance with UON’s Personal Leave Policy. In terms of wellbeing support, if they need to staff can discuss with and seek advice from their manager/supervisor or contact the UON Employee Assistance Program (EAP) or NewPsych (UON counselling service) by arranging an appointment; EAP is a free and confidential counselling, coaching and wellbeing service for staff and their immediate family.

First Aid Officers and others who provide first aid with a high-exposure role for infectious transmission of COVID-19 are recommended to consult UON’s directive on “standard infection control strategies” (University of Newcastle, 2020). They are encouraged to contact UON’s Health, Safety & Wellbeing Team for additional information and support.

Staff who test positive and have been on campus 48 hours prior are required to their manager/supervisor and log an incident report in AIMS (All Incident Management System), UON’s online incident reporting system. Then, a warning is provided to other staff and students who may have been in proximity and exposed to the infection on campus. The infected staff was requested to quarantine at home immediately or at another appropriate location and seek medical treatment if necessary. However, as of 14 October 2022, it is no longer mandatory to self-isolate at home if staff test positive for COVID-19; this applies only to people working in high-risk settings, such as healthcare, aged care, disability services, and penitentiary facilities. Nonetheless, if staff are unwell, they are strongly recommended to stay at home and rest until the symptoms have gone. Staff is encouraged not to place others at risk unnecessarily.

### 3.3 Key innovations in response to the pandemic

Three key innovations as a consequence of the pandemic can be mentioned. Firstly, with the lessons gained from the transition to online classes, academics can now teach classes synchronously in on-campus and online modes, allowing better interaction opportunities and a semblance of on-campus learning for online students.

Secondly, academics have become agile in the online space and can conduct research and engagement activities online without the need to expend resources on overseas travel.
Finally, new systems were put in place to allow flexible working-from-home arrangements, which improved efficiency and staff well-being.

Three key innovations as a consequence of the pandemic can be mentioned. Firstly, with the lessons gained from the transition to online classes, academics can now teach classes synchronously in on-campus and online modes, allowing better interaction opportunities and a semblance of on-campus learning for online students. Secondly, academics have become agile in the online space and can conduct research and engagement activities online without the need to expend resources on overseas travel. Finally, new systems were put in place to allow flexible working-from-home arrangements, which improved efficiency and staff well-being.

The shift to online delivery was not entirely new for the University, as many of the courses offered at UON include online and face-to-face students. These courses were originally designed for face-to-face delivery, but with the addition of online students, the only major change was a lecture recording being made available. This raised issues around equity between the two cohorts, with the on-campus students offering an engaging learning environment, yet the online students were generally passive observers. There was a clear opportunity to improve the online component of the courses even before the COVID-19 disruption. However, many academics addressed this during the pandemic by delivering their lectures synchronously for both cohorts (a hybrid face-to-face and online delivery). This involved setting up two cameras and a microphone/loudspeaker for a live stream of the class. Online students could then join the class discussion in real time using the loudspeaker. For in-class activities, new methods were adopted to improve active participation. One of these involved using polling apps to allow for live quizzes and feedback from the students’ phones, whether in the classroom or streaming from home. The main benefits are that students can participate equally regardless of whether they are in class or online, allowing them to give anonymous answers and feedback. Anonymity can be beneficial in this situation as it allows students to easily indicate if they do not understand a particular concept without being singled out. Furthermore, enhancing the blended digital learning aspects of the course is beneficial for both cohorts as digital learning has become real-world learning, with studies reporting that work will become increasingly blended in the future (Global Workplace Analytics, 2021).
An accelerated adoption and acceptance of advanced communication technology has led to academics becoming more agile and able to conduct a large portion of their research work remotely. Most of the technology that enabled this transition was not brand new, but the disruption of the pandemic compelled academics to undertake training and build capacity in this online environment. Without disruptions acting as a catalyst for change, there is often a reluctance to break the status quo and adopt new software and technology (Mention et al., 2020). There are several benefits that came from this shift. There is an environmental benefit, with academics able to conduct their research and engagement activities without the large carbon footprint associated with international travel.

It also led to a positive impact on equity in research activities. The ability to engage in research remotely removed barriers that might be faced by people living with disabilities, those with childcare responsibilities, and those that cannot afford to travel (Felstead et al. 2017).

This is an early stage of the pandemic-induced transformation of studying and working in universities, but perhaps it is a sign of the emergent future and long-term innovations in the sector. A recent survey indicated that most people preferred working from home or in a hybrid mode, indicating the need for innovative approaches to the future work mode in all sectors, including higher education institutions (Beck et al., 2022). Numerous benefits come from a hybrid approach. There are efficiency gains for the University with reduced office space operational costs due to reduced demand for services (power, telecommunications, and water) and reduced security and maintenance requirements. Additionally, there is an advantage that comes from a hybrid work model in that it can improve organizational resilience. In the case of UON, all staff is supplied with a laptop and dock rather than a desktop computer. This allows for the hybrid work model but also allows the organization to quickly mobilize the workforce during times of disruption (whether pandemic, natural hazard, or security threat). The University of Newcastle has hence been able to improve business continuity by dispersing its labor.

Despite the ongoing financial impact of COVID-19 on UON, the resultant innovation in the University’s response and management will create an ongoing positive impact on the organization. UON is now better placed to deal with future disruptions and has enhanced its online teaching and research activity capacities.
IV. Challenges

The challenges of a global pandemic of this nature are manifold and affect all sectors, and the higher education sector was not spared. Some of the key challenges include:

- Rapidly changing situation: Because of the unpredictable nature of COVID-19 and its different variations and mutations, a rapidly changing situation arose, which presented challenges to UON in tailoring its response according to the changing context. This is discussed below in section 4.1.
- Compliance with government regulations: With the changing scenario of the pandemic, the government also grappled with providing an adequate response and policy framework. This is evident in section 4.1 below.
- Lack of international students: Being a regional university, UON had about 17% international students just before the pandemic; however, many of the urban universities, especially in the large cities of Melbourne and Sydney, had about 40% or more international students; the reduction of international student intake severely impacted these universities. UON was spared from the worst of this impact but experienced a significant loss of revenue. This is discussed further below in section 4.1.
- Compounding risks from concurrent hazards: In early 2020, the Black Summer Bushfires ravaged eastern Australia, and together with COVID-19, presented critical multi-hazard challenges in emergency response and recovery operations when widespread lockdowns, social distancing, and quarantine were ongoing. A series of floods began affecting eastern Australia in early 2021, and again, amidst the widespread pandemic, presented serious multi-hazard challenges. These impacts were also experienced by UON staff and students.
- Unavailability of isolating or ill staff: The unavailability of staff infected by COVID-19 continues to present a critical challenge for UON, placing pressure on its resources and maintaining its quality of services.
- Restrictions on research that requires travel: Because of the government restriction on international travel during 2020-2021, research activities that required overseas fieldwork could not be undertaken. This resulted in an impediment to academics meeting their research targets when their research was reliant on overseas travel. As discussed in section 3.3, academics sought alternative options and, in some cases, even became agile in online research. However, not being able to engage directly and collect data in the field can result in sub-optimal outcomes in the long run.
4.1 Adhering to government policy and restrictions

Within the devolved governance structure of Australia, UON followed the directives of the NSW State Government. For example, state-wide social distancing and use of face mask protocols, COVID-19 tracking app (Remeikis, 2020), and QR code for venue check-in were some of the main Government policies that had to be implemented on campus. Some of the key initiatives requiring coordination with the Government included approval by NSW Health of the University Health Service as eligible for issuing vaccinations; establishing a COVID testing center on campus that provided services not only to UON students and staff but also to the wider community beyond the university, which continued to operate (see Figure 1). One of the biggest challenges faced was the rapidly changing situation. Government directives changed regularly, and the University was tasked with making changes that affected the entire organization within a matter of days (sometimes hours). With thousands of staff members and tens of thousands of students, it was necessary to have a single response team to ensure fast, consistent, and reliable messages were disseminated to all stakeholders.

Figure 1: Pop-up COVID-19 Testing Centre at UON (De Peak, 2021).
The Federal Government’s international travel restrictions during 2020-21 impacted international students and some staff members, who were not allowed entry to Australia. One of the biggest challenges for the University was the decline in international student numbers, which greatly impacted the University’s income. In response, UON allowed complete online study for international students from the middle of 2020. Some students faced difficulties adjusting to online learning, accessing high-speed internet, or mental health issues from the many pressures brought on by the pandemic. Along with the support services mentioned in section 3.1, the University also activated the alternative examination dates. This allowed for additional time to be given to the students to catch up after the disruptions. This proved helpful; however, the biggest challenge is trying to accommodate a myriad of issues faced by students across the globe, each facing unique personal issues and their respective government’s restrictions. With considerations for international students gradually returning, the Senior Deputy Vice-Chancellor (SDVC) engaged with the Head of Government Relations for a city-wide approach to ensuring positive community sentiment toward returning international students.

4.2 Maintaining student engagement

While the University tried many initiatives to help international and domestic students, the impacts of COVID-19 still exist for students. The biggest challenge is the physical attendance of students who can access campuses, lectures and activities on campus, and interactions among students. Due to the online learning experience in the past three years, students have become used to attending lectures and tutorials online or viewing recordings in their spare time. From the numbers of attendance recorded in classes, it is clear that students are less motivated to attend campuses for classes and activities, which are integral parts of the university experience. It thus reduces opportunities for them to develop a life experience at university and friendships with their classmates, not to mention academic performance. Since Semester 1, 2022, the University has changed the teaching mode back to face-to-face and encouraged on-campus students to return to campus to attend lectures and activities. For first-year students, the University required mandatory attendance for tutorials to increase interactions among students and help new students become familiar with university life. However, enrolment records show many on-campus students switched their learning mode to online study two weeks after Semester 1 started.
In Semester 2 2022, in the student experience survey, it was evident that more on-campus students were coming back to campuses and attending physical lectures and activities, including meetings with industry partners that help students find jobs after graduation. The situation may improve further when the job market is more stable after the COVID-19 recovery and students have less pressure on employment after graduation. To improve the on-campus student experience, the University started working with disciplines, schools, and staff to develop and apply strategies for improving student participation in campus activities.

4.3 New teaching modality for staff

The most significant challenge faced by staff, especially academic staff, is to make the transition to online teaching during the pandemic. It involved re-training and skills development and sometimes even changing teaching pedagogies and curricula. There was strong support from the Information Technology Services and Teaching & Learning teams at UON in providing training and other support and resources during the transition; however, making a smooth, swift, and effective transition presented challenges, especially for those academics who were accustomed to face-to-face teaching for the bulk of their career. Additionally, in 2021, a new online learning management system (LMS), Canvas, was introduced, replacing the previous LMS, Blackboard. This compounded the challenge of transition to online teaching with the additional requirement for new technical skills development and training. There was no mechanism to monitor and assess the effectiveness of the transition across the whole university; therefore, the quality of online teaching was variable.

Other challenges in the new online teaching modality included the availability and setting up of home-based computers and telecommunications materials, where various arrangements were followed. This presented challenges for staff without adequate space and facilities at home, particularly staff who lived in regional areas without adequate internet connections. There were wider impacts on staff, including changes to established work-life balance patterns, and isolation with consequent mental health problems, as discussed in section 3.2. There was significant support from UON for staff to deal with these challenges; however, not all staff were capable or had the necessary resources and thus faced the impacts brought about by the pandemic.
V. Conclusion

It can be argued that the case of UON’s response and management of COVID-19 was not unique and had commonalities with other higher education institutions in Australia, and is a global pandemic, also elsewhere in the Asia-Pacific region and beyond (Izumi et al., 2022). Nonetheless, UON presents a unique case of a regional university with a prominent role in Newcastle and the wider Hunter region, unlike universities in larger cities with more such institutions. There was thus more responsibility for UON to serve as a role model for the wider community, and the actions undertaken here had strong impacts on the region. For example, for a university to run a COVID-19 testing center is unique, yet by doing so, UON was serving society beyond the university staff and student community.

The key lesson demonstrated by the UON case study is the ability to rapidly develop COVID-19 response and management strategies and successively adapt them to the changing circumstances, policy and regulatory frameworks, pressures and challenges. This is a lesson that has long-term implications – UON is better prepared for future such pandemics and disruptions, and in the process, has gained new proficiencies and agilities in teaching and research that can serve as a model for higher education institutions.

Acknowledgement

Much of the information presented in this chapter was garnered from the University of Newcastle website. The authors acknowledge the support and information provided by members of the University’s COVID-19 Critical Incident Team, especially the timeline included in Appendix 1.
References


# Appendix 1: UON COVID-19 response and management timeline

## 2020

### January
- **25 January**  
  First confirmed COVID-19 case in Australia
- **28 January**  
  COVID-19 Critical Incident Team activated

### February
- **24 February**  
  Semester 1 Commences

### March
- **1 March**  
  First confirmed COVID-19 death in Australia
- **10 March**  
  Australia reported its 100th COVID-19 case, roughly corresponding to the start of Australia’s first wave
- **11 March**  
  World Health Organisation declares the novel coronavirus (COVID-19) the outbreak of a global pandemic
- **16 March**  
  Twice Weekly Executive Committee meetings established
- **16 March**  
  Critical Incident Team developed messaging for all staff and students which included links to the Employee Assistance Program, self-help video, and updated mobile number
- **18 March**  
  Federal Government travel advice was raised to ‘Level 4: Do not travel’ to all overseas destinations. Social distancing and indoor gathering restrictions announced
- **19 March**  
  PVC COVID-19 provided staff members with a daily summary of approvals to move to study at home (online).
- **23 March**  
  IFS conducted audits of the capacity of meeting rooms based on social distance requirements
- **23 March**  
  Members to discuss with teams that all non-essential travel canceled – including domestic travel and individuals will be personally responsible for any financial losses of continuing to make domestic bookings on university credit cards.
- **23 March**  
  University library to be deep cleaned following identification of a student testing positive who frequented a confirmed location.
- **23 March**  
  Communication circulated to staff – advising not to attend if someone you live with is unwell.
- **30 March**  
  CMO to work with the PVC (COVID-19) to prepare communication to go out to staff in relation to the new Government restrictions and the shutdown period over Easter
April
6 April  - WHS advised support for staff working from home is the focus
          - Decided that staff will take 5 days of annual leave and the university will provide 3 additional concession days
          - Confirmed social distancing measures to remain in place until the end of June 2020
          - One confirmed student case, possible staff case at Ourimbah, with five individuals in isolation
          - Agreed to conduct an audit on labs which may require a strategy around cleaning and social distancing
          - PVC to work with leaders to develop Trimester 2 fully online for international students
          - PVC BUSL to discuss gaining in-kind support from local businesses for students suffering hardship
          - PVC RI to coordinate activity in relation to the University’s engagement with industry/business in the development of prototypes to support COVID-19 response efforts

26 April  - The Australian Federal Government launched the COVIDsafe app, an app aimed to trace potential COVID-19 carriers in the community

29 April  - VC Encouraged members to sign up for the COVID-19 tracking app

May
11 May   - The PVC L&T to provide a weekly update to EC on the outcome of consultations with Faculties and Schools on the implementation of COVID-related changes to teaching and learning.

18 May   - Signage displayed on campus advising that buildings are not open to the general public

25 May   - PVC (COVID-19) to consider operationalization of a pop-up clinic for Callaghan and Gosford in conjunction with the Local Health District, to coincide with students returning to campus

25 May   - CPCP to track staff identified as ‘at risk’ and those approved for Flexible Working Arrangements

25 May   - To discuss the approach for communications of the new policy for students who paid for Semester 2 face-to-face enrolment but were unable to enter the country
June

**DSPP to issue results of the COVID-19 survey staff survey to EC members**

9 June  The SDVC to engage with the Head of Government Relations regarding a city-wide approach (through the Taskforce) to ensuring positive community sentiment toward returning international students

July

6 July  The Victorian and NSW state governments, jointly close their shared border to travel following a large increase in COVID-19 cases in Melbourne

20 July  PVC (COVID-19) circulate a copy of the COVID-19 CIMP to EC members

20 July  DVCA explored the use of an attendance app to assist with contact tracing

20 July  To review the updated scenario and flat CSP sensitivity analysis of the long-term financial landscape

August

10 August  Union stated position being the preference for staff to work from home and apply to work on campus

10 August  - Students raising concern that staff are being inflexible with opportunities to study remotely
   - Communication on the new Working from Home Arrangements (based on updated Commonwealth risk categories) to be issued to all staff

October

19 October  - Plans for 41 international students to fly to Sydney from 1 December 2020, quarantine in hotels, then be released. PVCBUSL recommended consideration for homestay arrangements post quarantine

November

23 November  The PVC (COVID-19) to prepare all staff communication regarding travel and hotspots, noting any staff member at work travel in an area defined by a State or Territory as a hotspot, or by 'restricted travel' must make a reasonable effort to return to NSW within 24 hours
**2021**

**January**

25 January  
Australia's government authority the Therapeutic Goods Administration provisionally approves the Pfizer vaccine

31 January  
- Incorporating Service NSW QR Codes on all buildings within campuses
- The new system of checking in for staff and students from 8 Comms sent to staff and students as students come back to campus and Business-as-usual resumes

**February**

1 February  
- Agreed that COVID-19 leave continues, with consideration to expanding the type of leave to pandemic leave or other special leave in the next enterprise agreement
- CPCO to include COVID-19 leave data in WHS quarterly reporting
- Stage 1a expression of interest submitted to NSW Health for the establishment of a vaccination clinic at the University

24 February  
University Health Service was approved as an eligible practice by NSW Health for issuing vaccinations

**March**

8 March  
PVC (COVID-19) to contact College PVCs to confirm details of staff members located overseas
A register your interest function will be available soon to staff can be notified when the next phase of vaccinations is beginning

15 March  
PVC (COVID-19) noted that the events framework and travel process being released

22 March  
The on-campus vaccination clinic will issue vaccinations to those identified as ‘high risk’

**May**

3 May  
Working with Student Living to adopt a 5-student: 1 bathroom ratio on on-campus residences

**June**

18 June  
In NSW, the Delta variant COVID-19 cluster grew exponentially, as the second wave hit the Australian States
21 June Employee Assistance Program sessions have risen by 30% in the last six months
21 June Committee requested that communication be released to staff regarding current travel advice

July
11 July - Sydney campus closed until 16 July 2021
- Sydney campus online learning (T2 winter) until 21 July 2021
- Ourimbah, CCCSRI, Gosford campus – nonessential operations ceased, campuses closed until 16 July 2021
- Callaghan, City, Regional campuses – work from home and minimal staff presence on campus until 16 July 2021
12 July Semester 2 teaching will move to study-from-home mode until 30 July, with minimal staffing on campus
19 July - Sydney campus online learning (T2 winter) until 30 July 2021
- Ourimbah, CCCSRI, Gosford campus – nonessential operations ceased, campuses closed until 30 July 2021
- Callaghan, City, Regional campuses – work from home and minimal staff presence on campus until 30 July 2021
- Work in progress includes emergency protocols during COVID restrictions; revised safety induction; de-escalation training; proposals for capital works which include gas storage; ICT safety in design; environmental investigations; and resourcing to enhance early intervention for psychological health and safety

August
23 August Sydney will be in hard lockdown until 30 September, Regional until 28 August 2021, The University until 28 August 2021
23 August Types of research and teaching were prioritized for on-campus delivery

September
7 September - Established Work from Home triggers linked to the University COVID alert levels
- Work from Home option over mid-semester break to trial the ‘bubble’ and increase staff morale
- Established rules for conducting an event that is not specific teaching activity related to a course or program
- Updates made to the risk and Work from Home approval
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<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>14 September</td>
<td>School formals and grads allowed from November 12th</td>
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| 30 September | - Noted that locally the University is in an outbreak scenario and confirmed communications are released to staff reinforcing the need to continue to complete the lockdown restrictions.  
                  - The committee requested that a confidential ‘University roadmap’ paper including recommendations be brought to the next EC meeting for discussion and decision |
| November    |                                                                |
| 8 November  | COVID-19 will now be managed within the University in the context of well-being Health and Safety rather than through Government Public Health Orders |
| 8 November  | Vice Chancellor to raise the QR Code data to allow access to the data in order to effectively manage COVID outbreaks |
| 15 November | - The Committee acknowledged the importance of transitioning to internally managing campus cases and outbreaks, taking a WHS and risk-based approach  
                  - All staff forums are to be held to present the COVID plans for 2022 onwards. In addition, comms are to be released at the end of the year outlining the COVID communications plan for 2022 is changing |
| December    |                                                                |
| 6 December  | - The COVID-19 Response Lead presented the proposed COVID Management Framework 2022, noting that its purpose is to codify the University’s response and to promote and support a healthy and safe environment for staff, students, and visitors to the campuses  
                  - COVID Management Framework 2022 incorporated advice from the legal office (particularly with regard to the privacy concerns, who will access the data, and how it will be used and stored); be taken for consultation with the staff consultative committee; and then be brought back to the Executive Committee for consideration before considered communications are released to staff and students |
| 14 December | COVID-19 Critical Incident Team concluded |
CASE STUDY 2

COVID-19 and its Multi-Impact in Nepalese Higher Education System: Lessons Learned and the Way Forward to Resilience

Ujjwal Upadhyay
COVID-19 and its Multi-Impact in Nepalese Higher Education System: Lessons Learned and the Way Forward to Resilience

I. Background

While countries across South Asia have made remarkable progress in Sustainable Development Goal 4 in education over the past few years, there was a substantial setback due to the COVID-19 outbreak in March 2020. Within four months of its emergence the global pandemic, as recognized by the WHO, grappled the entire world directly affecting 90 percent of the world’s students encompassing over 188 countries [1]. Unlike economically developed and technically equipped nations, institutions in South Asia and Nepal faced the serious challenge of getting educational activities going. The country struggling to make education accessible to everyone and to improve the quality to meet international standards faced a big challenge as it had to shut down the education institute because of the COVID-19 pandemic which was a highly transmittable disease via air. As suggested by the World Health Organization (WHO) the only way to curb its spread was to maintain physical distance and avoid gatherings [2]. Among the other sectors like tourism and entertainment sectors like cinema and theatres, the education sector in Nepal was hit the most as it kept students absolutely deprived of education. Since the entire educational activities across all levels—from primary to university level—were taking place through the physical interface, there was no light at the end of the tunnel in terms of how to conduct educational activities from then onwards as physical gatherings were absolutely prohibited by the government complying

the international norms and protocols. The country where access to education was already a challenge faced more complications after the disease outbreak. However, overcoming the faint hope of a reduction in COVID cases and thereby creating normalcy and resumption of studies, very few leading institutions mainly comprising from Kathmandu, the capital city of Nepal, and other big cities resumed educational activities online through various e-learning-based platforms which could only benefit the fraction of student communities. Gradually, the educational rights of children started becoming an issue of concern amid growing numbers of COVID-19 cases thereby creating anxiety. The country has a weak Information and Communication Technology (ICT) infrastructure and a digitally divided urban and rural population that needs good attention to engage students in academic activities without further delay. But it was equally challenging for the educational institutions that only practised physical interface for education before where both teachers and students were unaware of such an idea.

In a country with a significant number of disaster-vulnerable communities where access to safety nets and basic health services was difficult to come by, better access to education ensuring progress and equity was even a far-fetched task. Even before the pandemic occurred, in remote areas, the situation was much more pathetic, particularly for those who belong to socially and economically disadvantaged groups. The data show that more than two-thirds of the children are dropping out of high school. Whereas only 15% of students from secondary level graduates are enrolled in higher education [3]. The challenges in education which already occurred have been further reinforced by the pandemic. Apart from the psychological stress created by the disease itself on the minds of young students, getting education activities going was a challenge in itself.

As there is always a silver lining around the dark clouds, amid multiple challenges, the education system in Nepal also made progress in terms of making formal education online-based. With the courtesy of both government and private sector-based telecommunication companies, the online teaching and learning process gradually seems to be following the track which started mainstreaming the students of different classes. As there have been three major waves of the covid-19 spread across the nation, the education sectors tackled subsequent waves relatively better than the first one. This paper tells the story of the multidimensional impacts of the covid-19 mainly focusing on student and teacher interface along with emphasizing the factors that enabled them to cope with this hazard and become resilient enough to face such complications in the future. formation and suggestions as a way forward.

II. Aims and Objectives

The aims and objectives of this paper are to:

1. To assess the impact of COVID-19 in education and its various aspects encompassing its stakeholders, teaching methodologies, pedagogies and teacher-students interface.
2. To analyze the effectiveness of online teaching and learning practices among the primary and secondary level students amid the pandemic-induced lockdown.
3. To share a lesson as a resource to improve the new learning system mitigating the existing issues and enhancing merits to make the learning communities more resilient to such disasters to build a sustainable future.

III. Lesson Learned

3.1 Impact on education from students’ perspective

Only 35 percent of the schools across the country have internet access but despite having ICT resources, only 13 percent of them are able, until July 2021, to provide online classes to their students [4]. Even in such institutions, where online (both synchronous and asynchronous) learning took place, faced multiple problems. When nationwide lockdown came into play, the students belonging to remote and rural areas were asked to evacuate the city hostels and leave for their homes as they were not able to access internet services despite their institutions running classes online. The same was the case with some teachers who either had limited or no access to ICT services.

Since the COVID-19-induced lockdown happened in March 2020, most of the school-level students were waiting for their examinations. Even when the national level examination of class 10 students that is conducted by the national level education entity namely; the National Education Board was around the corner, eventually got canceled when more than three hundred and fifty thousand students appeared at the same time. The NEB developed some new directives to award school certificates to the students to proceed to class 11 by adopting an alternative evaluation system which mainly comprised of students’ previous academic performances. However, the remaining schools and colleges were in limbo with no clear direction from the parent universities and the Nepal government.

Most of the schools were shut down for at least three weeks before a handful of them from Kathmandu (the capital city) and a few other big cities started classes online, which very few students could attend. In Nepal, more than 9 million children were out of school in the first six months of the onset of COVID-19 comprising 11 per cent, 28 per cent, 39 per cent and 22 per cent from the pre-primary, primary, secondary and tertiary levels of the education respectively [5].

With the extension of lockdowns, there was a sharp increase in mental health issues among students. According to a survey done on undergraduate students of Kathmandu University and Tribhuvan University in January 2021, it was found that 62 percent of students' mental health was impacted by COVID-19 out of which 86 percent of students were negatively impacted. This was hugely due to issues such as uncertainty of the future, financial burdens such as school fees, familial conflicts arising from economic struggles, and isolation. Add to this the survey done with school children in grades 8 and 9 revealed the fact that they are increasingly indifferent about their social responsibilities such as unfollowing the basic courtesy and discipline-related activities inclusive of greetings to others. Persistent lockdowns and isolation made students of this age (13-16 years) get addicted to electronic gazettes and engage with more unproductive stuff like online gaming. The improved ICT infrastructures are also misused by students of this age instead of making good use of it.

With the help of improved digital technology over the past few years in the country, the online means of learning became possible at least for a few communities, the government in collaboration with stakeholders took the decision to adopt an online learning system via various platforms like Zoom, Google-meet, MS-Teams, etc. The government along with other autonomous universities not only developed the policy for the online learning systems but also formulated regulations and work plans which helped education institutes to carry out education activities smoothly and with confidence [6]. However, this approach could not bring all the communities into the “common learning mainstreams” as many students were in geographical locations where accessing online learning systems was not possible. Even in some geographies where access to the online system was technically viable were not able to make it due to the poor economic condition of both the institutions and students to afford gazettes and data packs.

To overcome the aforementioned issues to some extent, the government prioritized devising guidelines and directives which helped different institutions and stakeholders to develop their plan for alternative arrangements of education to develop structural strategies so that the learning resources would become accessible to everyone. Such learning resources comprised both digital and printed ones that were disseminated through various media; FM radios, television channels, newspapers magazines, etc. The government also appealed to parents and guardians to encourage, support, and guide their children while attending such educational programs being aired through radio and television to effectively involve them in the online/offline-based distance learning system.

3.2 Impact on education from teachers’ perspectives

As per the data collected through key informants’ interviews, the teachers, mainly those above 50 years old, were having difficulties understanding and getting used to this new system of online-based learning. In Nepal, the government school teachers having limited knowledge of the English language were exclusively practicing the conventional teaching method devoid of the use of any means of electronic devices and some had limited knowledge even about basic computer skills such as MS Office. Such teachers were having a tough time initiating online-based learning systems which adequately demanded them to be well equipped with computer-based ideas. Moreover, educational institutions’ lack of experience and policy associated with e-learning platforms in the past further obstructed the efficient and effective delivery of education services in the absence of physical settings.

Even when the online learning system took off the ground, students apparently reported that the e-learning system became monotonous because teachers, apart from online delivery in front of the camera, practiced the same learning method without customizing and improvising their teaching, learning, and evaluation methods making it incompatible with the online mode. On the contrary, students’ attendance along with their conduct and discipline was difficult to monitor which limited the teacher’s role to support students in their multidimensional growth. As most of the South Asian system of education exclusively depends on the sit-in examination for major academic evaluation, the conduction of such events has been delayed by months due to ever-increasing COVID-19 cases every day. Institutions deciding to conduct examinations online too faced challenges ensuring transparency and credibility of the examinations as there were limited resources such as plagiarism checking software to verify the integrity of examinees.
Along with growing cases of COVID-19, family members of students were getting infected along with themselves, and issues started coming to the surface regarding were mental health of students. The persistent lockdown was bringing more cases in like family members owing to business and facing massive losses, and some were losing jobs, further reinforcing the mental health complications. Teachers were not being paid on time and some were getting forced retirement due to the financial challenges encountered by the schools, as parents were unable to pay the fees on time due to financial crises they were facing in their respective professions.

3.3 Impact on formal education and pedagogies

While identifying and analyzing various teaching and learning practices for formal education that have been implemented during the lockdown, the details of their effectiveness, challenges, and solutions during the lockdown touch upon a few explorations about the continuation of practices during and even after the lockdown. Based on the surveys made among the students of all groups and teaching professionals along with the management staff of the institutions, only 40% of the total surveyed students (from primary and secondary levels) said that the teaching and learning practices provided by the school during lockdown were effective, 36.6% said they weren't sure and 23.3% said it was not effective. The teachers and college management however, expressed a mixed response sharing that the effectiveness was hard to measure because of the unsuitable teaching pedagogies, curriculum and evaluation, the infrastructural capacity and skill set, mindset of teachers and students, and lack of creative and pragmatic directives from university among other reasons. However, given the unprecedented circumstances, the adoption of teaching and learning practices has been more relevant and moderately effective. The Director of the Division of Policies and Lifelong Learning Systems at the United Nations Educational Scientific and Cultural Organization (UNESCO) focused that the effectiveness of the strategies is mainly conditioned by four levels of preparedness: technical preparedness, content readiness, pedagogical preparedness, monitoring, and evaluation [7]. While the surveyed people have somewhat made a bumpy but praiseworthy shift in all of the four levels of preparedness, the preparedness has not been sufficient with a huge gap in resources, skills, infrastructure, policies, and engagement.

The majority (57 percent) of the surveyed students’ geographic location was in Kathmandu Valley which is the capital city of the country and is arguably the geographic location having the best internet and connection coverage all over Nepal and among them, 53 percent were in Kathmandu valley.

43 percent of the surveyed students were using both mobile and laptop to be involved in the teaching and learning practices whereas 13 used laptops only. Although the surveyed students and schools are in a moderately privileged position in terms of technological infrastructure and connection, we cannot ignore 13.3% of students who were using mobile only to be involved in the teaching and learning practices, who had problems with the condition the devices were in, who were in geographic areas having poor connection and those who have been impacted with the financial crisis.

The key here is what the universities and colleges now do to cover up for or provide better services that they couldn’t manage initially and also accommodate the changes in a way in which not a single student is left behind. The mission of all education systems is the same, ‘to overcome the learning crisis and respond to the pandemic we are all facing’. Remote/Distance learning is not only about online learning but about mixed media learning, with the objective of reaching as many students as possible, today [8].

3.4 Effectiveness of online learning system

It is difficult to measure the effectiveness of the current teaching and learning practices which are not being done according to proper pedagogies involved in online and distance learning as it requires more institutional-level changes from the curriculum and modality to evaluation. For now, to measure the effectiveness, we need to look into factors like the inclusivity of the students, the understandability of students in terms of learning, the monitoring and evaluation based on a value system than time commitment or restriction, the engagement level and reasons of engagement (forced, self or encouraged) and the cost students need to make while doing so. The extended closures of educational institutions caused not only a loss of learning in the short term but also a further loss in human capital and diminished economic opportunities over the long term[9]. The situation has shown light the incompetency in the education and evaluation system of Nepal, the inequality and disparity in resources, the infrastructural fragility of resources required for online and distance learning, the operations of most colleges, and the mindset of the students and teachers.

This has changed our ideas about teaching and learning for formal education to quite some extent and it is important that we continue exploring what effective teaching and learning practices mean especially when we are shaping the present and future of the nation. COVID-19 and the lockdown have provided an opportunity to redefine and reshape the education system. In the uncertain context, it might be better to make decisions assuming a longer scenario and many of the improvements, initiatives, and investments that school systems will have to make might have a positive long-lasting effect [10]

There are many things that educational institutions can do from having empathetic communication with the students (since this affects students’ motivation in participation and engagement in distance and online learning), assessing the situation of students and teachers, providing scholarships to the needy, making provisions for providing mobile data by charging fees instead of unused facilities at college, provide devices with a security deposit modality, change pedagogies and provide capacity training, among many others. However, academic institutions can only do so much and so for a better and bigger impact and reach, the involvement of the three-tier government, the telecommunication companies, Internet Service Providers (ISPs), Nepal Electricity Authority (NEA), and education experts can come together along with other stakeholders of education like universities and colleges is needed. This also provides for researching the best practices worldwide and implementing well-coordinated content-specific efforts at the micro level with collaborative actions, inclusive and contextual action plans, and rapid execution. The universities and colleges can share their challenges and solutions with each other in a platform arranged by self or through government initiatives to develop a better teaching and learning ecosystem altogether. The students on the other hand also need to be open to adapting to these changes with the realization that there exist inequalities in terms of resources and accessibility and be genuine with the problems they are facing.

IV. Challenges

With the gradual increase in the ease of online classes, both students and teachers started to adapt to the new form of transferring knowledge. However, despite adjusting, online learning came with its set of challenges. Following are a few of the challenges that were faced during COVID-19 and will be faced in an online learning setting in the future for sure.

4.1 Feasibility and effectiveness of online learning

Because of the pandemic, there were many students at all levels who faced significant delays in graduation compromising their timely job hunting and income opportunity. This affected the students studying technical subjects such as engineering and medical sciences who would have the opportunity to get into the job market immediately and gain both financial incentives and job experiences. The main reason for the delay was due to students were unable to complete their practical curriculum that required access to labs within the university premises. This is only an example representing the issue for all undergraduate and graduate students who were enrolled for courses requiring practical learning in settings such as laboratory or field visits. Thus, one of the biggest challenges for e-learning is that it cannot provide a comprehensive learning environment that caters to every variety of courses offered by universities. This incites a question about the feasibility and effectiveness of e-learning mediums for students.

4.2 Ensuring standardized online model of education

Academic personnel accumulate years of teaching experience to deliver quality education appropriate for the contemporary physical mode of classes. During COVID-19, the quality of online classes degraded drastically since teachers taught in the same way as they did for physical classes. The reason for quality degradation was that, online forms of teaching demand modification in ways of presenting, delivering, and assessing courses. However, teachers found it difficult just to adapt to the new forms of learning, let alone amend their teaching style. A solution to tackling this problem for the future is standardizing online classes by monitoring teachers’ contents and methods of teaching before classes on the institutional level, as a method for quality control. Meaning, that heads of departments, deans, or other similar academicians in higher positions monitor and guide teachers to improve their quality of teaching.

4.3 Providing trainings and tech-support to teachers

The rural population in Nepal consists of 79% of the country’s total population (World Bank, 2020)[11] where access to ICT for an average Nepali is poor and mostly centralized around the urban areas. Even then, fluency in basic technology is limited to the youths and students. Hence, teachers, especially the aged, find it difficult to navigate through an online model of learning.

https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=NP
This was exactly the case during COVID-19. With the shift to online classes, students had to spend a substantial amount of their class time assisting their teacher. Since conducting classes was already a strenuous job for teachers, assessing and evaluating students properly was just not possible. Thus, it is important for schools and universities to provide technical training beforehand. There is a need for technical support and troubleshooting for both students and teachers without disrespecting their knowledge and expertise (Hayat et al., 2021) [12]. With the online mode being the 'new normal', schools should allocate a department or a sector dedicated to tech support, particularly for online education. This was a challenge during abrupt COVID-19 lockdowns as it was difficult to provide tech support to every teacher who was not digitally fluent or skilled due to their digital restrictions such as not having a laptop or even a stable internet connection to conduct classes.

4.4 Developing inter-personal skills among students

The impact of online learning and COVID-19 was biggest on the students. From a physical mode of learning where they could also develop social skills and establish networking, students were forced into a completely isolated form of learning. Social-emotional skills picked up within the physical classroom setting leads to long-term social benefits that will help throughout their life (Greenberg & Costigan, 2017) [13]. These social benefits include developing self-awareness, emotional management skills, skills to build social relations, and learning to function with different personalities. However, online classes and the pandemic severely deprived students of these benefits. Despite some elite institutions applying measures to solve this by introducing creative network-building programs, online education could not adequately compensate for the lack of social skills (Günindi, 2022) [14]. The outcome of such isolated learning experiences is the increasing number of socially introverted, individualistic students with indifference towards responsibilities. This was abetted by the staggering rise in mental health issues due to the pandemic, financial and social problems, overwhelming emotions, and monotony.

4.5 Infrastructural hindrance and dependency

As a developing state, the majority of youth in Nepal continue to struggle to gain access to basic education, especially higher education opportunities (MOCIT, 2019)[15]. The combination of education inaccessibility with weak ICT infrastructures became an obstruction to implementing effective online classes (particularly in rural Nepal) during the lockdown. For both teachers and students, access to the internet connection, slow network speed, and unaffordability of gadgets and internet packages acted as a barrier to quality online education. Although Internet Service Providers (ISPs) gradually introduced attractive Internet packages offering reasonable data packs for education purposes, the key beneficiaries were restricted to middle and higher-class urban dwellers. Hence, infrastructural hindrances further deepened the existing rural and urban divide for quality education. To overcome this, the government should engage in fast-track projects that increase the internet reach all throughout Nepal and devise education models that implement contextual ICT courses in schools, especially in rural areas. Although the COVID-19 pandemic boosted the platform for digital learning, it created a dependency on an internet-based online learning model making the education system susceptible to vulnerability in case of internet blackouts or inaccessibility. In addition, popular internet platforms for online classes such as Zoom, Google Meet, and Microsoft Teams acted as makeshift learning mediums rather than solid platforms for effective learning. Therefore, government-approved e-learning software with a comfortable user interface and attractive graphics should be introduced to decrease reliance on internet-based learning modes.

4.6 Generating motivation and avoiding monotony

During the lockdown, students had to attend classes confined within their homes. Even just after two weeks of online learning, students expressed boredom due to the monotony of online classes (Irawan et al., 2020)[16]. Coupled with the anxiety from the COVID-19 crisis, the effectiveness of online settings for learning was substandard. The indefinite extends of lockdown further demotivated students to study causing drop-out rates to increase as well. In a physical setting, children are conditioned to concentrate in classes and conform to school rules. However, in their homes, students may lack the same constraints resulting in them being constantly distracted and dispirited during the online model of learning.

Teachers are supposed to apply creative forms of schooling techniques to ensure students' productivity and enjoyment during class time ensuring better involvement of students, mainly marginalized ones, through creating an effective learning ambiance.

V. Conclusion

COVID-19 has left a staggering impact on various aspects of the world such as the economy, culture, and society. One such impact is on the education system with all academic institutions having to shut down and forcefully devise alternate solutions to continue the process of pedagogy. The mass solution to this was a shift from physical classes to online classes. Although a convenient makeshift solution, developing nations such as Nepal still struggled to shift completely to the digital model of learning. With the passing of time, many schools in Nepal started to adopt online schooling. However, only around 13 percent (till July 2021) were able to restart academic activities digitally despite 35 percent of the schools having internet access.

The students had to face multiple problems during the pandemic such as having to move out of their respective hostels, internet inaccessibility in rural areas, technological restrictions, the uncertainty of examinations, mental health issues, and social isolation. Similarly, teachers largely struggled with navigating the digital platforms, keeping the class motivated and interesting, assessing and evaluating students, ensuring the credibility of assignments, income deprivation, and financial burdens. The effectiveness of online learning systems during the pandemic is also questionable, as distance learning requires modifications in curriculum and presenting styles on an institutional level to be able to become functional.

This newly adopted e-learning mode has its own challenges as well. Despite amending the curriculum to suit digital learning, it still cannot bridge the gap of learning physically for courses that require practical and hands-on learning. Similarly, not all academicians are digitally fluent and skilled and thus, need technical support, which may be time and cost-demanding for institutions. Distant learning through digital platforms also deprives students of developing social skills and networks unlike in schools and universities where social interaction is imminent. Infrastructural hindrances in developing nation like Nepal also poses an obstruction to online learning.
COVID-19 popularized digital education by pushing Nepal towards adopting an alternate form of education. However, its effectiveness is contentious in its current form. For the government, with the help of relevant stakeholders, it is essential to revise and modify this new form of learning system to ensure its adequacy and efficiency in providing quality education. Furthermore, it becomes the government’s responsibility to first prioritize enabling every part of the country to have internet connections and incorporate courses specializing in ICT so that everyone acquires accessibility and digital fluency. With the onset of disaster in the form of COVID 19 which devastated many sectors education being the most, Nepal could slowly but steadily develop an alternative to get education activities going. Many of such alternatives were derived on an ad-hoc basis, whereas some were policy-based. But one must admit that, amid many limitations, within less than two years, Nepal has been able to develop resiliency in the education system by involving more than one-third of the students in an alternative education mainstream. There is a need for better planning and policy interventions from the government to collaborate with all key stakeholders to establish a holistic digital learning module that is decentralized, inclusive, and technologically advanced.

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References


CASE STUDY 3

Think Disaster Risk: The Case of Democratizing Risk Literacy

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Think Disaster Risk: The Case of Democratizing Risk Literacy

I. Background

The Sendai Framework for Disaster Risk Reduction (SFDRR 2015 – 2030) (UNDRR 2015b) prioritises strengthening disaster risk governance to foster effective and efficient disaster risk management. Advocating the need to mainstream and integrate disaster risk reduction within and across all sectors, the Sendai Framework emphasizes public awareness-raising and training initiatives, which perhaps is the key to a citizen-driven, inclusive & risk-informed sustainable development, as it is through awareness programs, orientation and training activities of the masses that perceptions of risk and realities of embedded and endogenous vulnerabilities can be shaped. The framework (UNDRR 2015b) emphasises disaster risk management as everyone’s business – inviting engagement of all-of-society and all-of-State institutions. But, a pertinent question emerges here – is our society as a whole, or its institutions attuned to the switch in paradigm from managing disasters to managing disaster risk or are they still immersed in the erstwhile belief of disasters being ‘natural’ and hence feel that responding to them and thereby building back better is the only way out? Is our society as a whole empowered enough, in terms of knowledge and awareness, to advocate and steer the agenda of mainstreaming disaster risk reduction concerns in sustainable development or are we still unknowingly and informally involved in disaster risk creation?
The eventual realization of the multi-stakeholder nature of DRR (Clark-Ginsberg 2020) – Disaster Risk Management is everyone’s business – underscores the fact that the translation of disaster risk into disaster is inseparably linked with people’s decisions (Hewitt 1983; De Milliano 2015) and hence the perception of disaster risk. This view—embodied in the ‘resilience’ and ‘vulnerability’ paradigms of disaster management—emphasizes that disaster risk is the outcome of everyday decisions such as those related to land use, social behavior, political and economic structures, which construct vulnerability, many hazards, and the capacity to reduce risk (Oliver-Smith 2013; Wisner et al. 2004). These decisions, irrespective of being imposed by the power structure of the society or driven by citizen consensus, can cascade across time and space and create or reduce the risk for others (Schulman, et al. 2004),(Pescaroli and Alexander 2015). Risk management thus transcends the boundaries of a single regulatory or governmental agency (Gaillard and Mercer, 2013; Lassa 2010; Tierney 2012; Ahrens and Rudolph 2006; Boin, 2009), requiring both bottom-up and top-down involvement [10], including from community (Maskrey 2011). But the community largely remains indifferent.

We often associate socioeconomic factors like poverty, lack of resources, etc. as the prime dimension of vulnerability, but there are other dimensions too. For example, even when people have enough income to build a safe house in a safe place, they often do not do so because of perceptions of risk and cultural explanations of disasters. Disaster Risk Reduction / Management (DRR/M) policies that advocate that people move to safer places are missing the point – people calculate that to live with infrequent (and unpredictable) hazards is a better option than not being able to live with the livelihoods they can get in that place. This is known because thousands of local-level risk assessments have been carried out worldwide by NGOs like the Red Cross / Red Crescent. The people are asked about their main concerns, and they do not mention extreme hazards (even when they have recently suffered an impact). Instead, they mention everyday problems – having enough food, paying for medicine, crime, water supply, malaria, and even traffic accidents. Thus, it is pertinent that an ecosystem is created that enables the shaping of the perception of disaster risk of communities, unified towards developing resilience.

1.1 Impediment to disaster risk being everyone’s business

To reiterate, the Sendai Framework advocates switching to managing disaster risk from managing disasters by fostering the notion that managing disaster risk is everyone’s business.
The notion intends to equitably distribute the responsibility of disaster risk management, backed by the idea that disasters are social constructs (Wisner et al. 1977), shaped by our actions and decisions. But the question is – how do we (citizens) correct our actions or take risk-informed decisions if the majority of the population is basking in the benefits and privileges of the welfare state, shifting the responsibility of managing disasters and disaster risks onto the government? The exceptions here are those communities who experience or have experienced disasters like that of Odisha in cyclones or Gujarat in case of earthquakes in India. Interestingly, even amidst such communities that have faced the brunt of a disaster, a substantial majority remains reluctant to act towards disaster risk reduction – while some feel that the benefits outweigh the risks or they have little choice over where they live (Guinness et al. 2008), others firmly believe that disasters are acts of God and only little can be done to prevent the unforeseen. Both of the above factors – the hangover of the welfare state and blaming it all on God – curtails the spirit of inquiry to investigate the embedded and endogenous vulnerabilities which usually lead to a disaster.

The impediments are interestingly different for those who challenge themselves to understand disaster risk beyond the aforementioned self-imposed limitations. As with many other subjects, disaster risk science is replete with jargon developed by, and for a combination of practitioners, policymakers, and academicians (Kelman 2018). For example, the most commonly used term – ‘resilience,’ has its roots in engineering, ecology, and psychology (Kelman 2018) and thereby remains open to interpretation by professionals coming from various different fields, even when it has been extensively deconstructed by eminent researchers (Timmerman 1981; Aven 2011; Alexander 2013; Lewis 2013; Sudmeier-Rieux 2014; Etingoff 2016). There are two unique problems in this regard. The transdisciplinary nature of the disaster risk management space encourages cross-sectoral participation from professionals and practitioners from various backgrounds who remain configured to their parent field, thereby interpreting terms in their academic context. The second issue is much more prominent – practitioners, professionals and decision-makers pay very little regard to the hefty work of scientific research that goes behind establishing the semantics of these terms. Adding to this, terms, definitions, and interpretations continually evolve, making it more difficult to keep oneself abreast of the developments. This becomes even more difficult when the primary, secondary, and even technical curricula in a majority of schools, colleges, and universities, downplay the essence of disaster risk management and reinforce the repetitive use of terms like ‘natural disasters’ (UGC 2021).
Owing to all these impediments and ambiguities, the disaster risk management space largely remains relegated to being reactive with disillusioned citizens, unaware of the science and also of the established disaster management machinery of the state. In India, the word ‘disaster’ has a legal connotation derived from the National Disaster Management Act of 2005, but even then, casual and informal use of the word in the disaster risk management arena is rampant. The Act of the Land decentralizes the machinery – an authority at the national level with state-level and district-level authorities functioning in tandem. In fact, response funds (National Disaster Response Fund) are also earmarked for every state with regulations on how to and where to use such funds (MHA 2019) and yet, many decision-makers remain ignorant of these provisions. Often, post-disaster, demands are made by political parties to the central government to declare the disaster as a ‘national disaster’, which appears amusing as there are no provisions as per the Act to declare a disaster as a ‘national disaster’ (Nandy 2021; The Indian Express 2021). Thus, it is evident that there is an urgent need to revisit the basics of disaster risk management in light of contemporary developments.

II. Aims and Objectives

2.1 Designing a strategy to build consensus on the understanding of disaster risk management

The Gujarat Institute of Disaster Management (GIDM) is registered as an autonomous society under the Government of Gujarat as the apex institute of the state, entrusted with the responsibility of human resource development, capacity building, training, research, and documentation in the field of disaster risk management. Taking cognizance of SFDRR, the 2030 Agenda for Sustainable Development (Sustainable Development Goals), and the Hon’ble PM’s 10 Point Agenda, in addition to the national and state level Acts and policies, GIDM, through its capacity development initiatives, is fostering the concerted ideology of risk-informed, disaster-resilient, sustainable development.

The first wave of COVID-19 imposed a nationwide lockdown on 25 March 2020, which forced GIDM to a halt. Most of GIDM’s capacity development initiatives suddenly stopped while the virus (SARS-CoV-2) continued to wreak havoc. Preliminary analysis of the situation by researchers and administrators of GIDM led to the conclusion that, perhaps, the notion of understanding disaster risk and thereby governing it has failed to meet the challenges posed by COVID-19.
A need was felt to reinforce the fundamentals amongst all – as many people as possible. Taking a cue from (Toft and Reynolds 2018), “We owe it to those who have lost their lives or suffered a loss to draw out the maximum amount of information from those lessons and apply it to reduce future suffering”, GIDM embarked on a novel journey to re-install the ideology and fundamentals of disaster risk management by bridging the evident gaps as discussed in the previous section. GIDM constituted a team comprising of academicians, scientists, bureaucrats, practitioners from disaster management institutes, disaster management authorities, and non-governmental organizations to discuss a probable way forward – how can the fundamentals of disaster risk management be democratized and communicated to the masses in a way that is informative, useful and also appealing & interesting at the same time?

The core team comprised 6 experts [ three from GIDM, one from the Gujarat State Disaster Management Authority (GSDMA) and two from an eminent non-governmental organisation, cumulating to more than 80 years of experience in the field, amongst different communities and stakeholders in India), assisted by the academic staffs, over several virtual consultations, decided the following:

1. The pandemic triggered a shift to e-learning should be leveraged to design and disseminate an introductory course on disaster risk management. This was also in line with the surge of people enrolling in various online professional courses during the lockdown. (India Today 2020).
2. The course should comprise appealing and interesting videos of short durations (keeping in mind the concentration span of learners) supplemented with relevant documents for reading, transcript of the video (in case needed by learners), and assessments which would not be for grading but to ensure that the learners are attentive enough to move on to the subsequent units.
3. The course should be self-paced, allowing more learners to join, irrespective of their engagements, like working from home.
4. The course need not be detailed, but it should be comprehensive. The team realized that it is practically impossible to cover all the dimensions of disaster risk management as it is done in a specialized graduate or a post-graduate course, and in fact, that is not even the objective of the course. The course should highlight, cover, and explain some essential hard-hitting points that are invariably required to shape the conception of disaster risk management as everyone’s business. These points, as identified were;
a. Hazards are not disasters – Pillar 1
b. Lucid and clear interpretation of exposure, vulnerability, coping capacity, disaster risk and disaster as per the established understanding set by the United Nation’s Office for Disaster Risk Reduction (UNDRR) and as per the definitions in the National Disaster Management Act of India (2005) and the Gujarat State Disaster Management Act (2003) – Pillar 2
c. Disasters are not natural but social constructs - a catastrophic manifestation of the interaction of hazards with vulnerabilities of exposed assets – Pillar 3
d. Disaster Cycle: The team was aware of the misnomer of disaster management cycle (Bosher et al. 2021), but they were not sure how it would be received as many preconceived notions were already being challenged in the course. So, the team decided to present the disaster cycle as a disaster risk management cycle, emphasising explicitly more on various aspects of disaster risk reduction, the summary of which comes out to be that the whole idea of disaster risk management is the total of disaster risk reduction (reducing existing risk and ensuring no new risk is created) and disaster management (the conventional idea of managing disasters) – Pillar 4
e. The evolution of disaster management to disaster risk management, at the global level, through the Yokohama Strategies, Hyogo Framework for Action and the Sendai framework – Pillar 5
f. The disaster management machinery of the government at the national and the state level, emphasising the Acts, policies and agendas like Hon’ble Prime Minister’s 10 Point Agenda (NDMA 2016) – Pillar 6
g. The course is to be delivered in two languages – English and Gujarati. The English course would cater to residents outside Gujarat and those fluent in the language, but that would serve only half of the purpose. The usage of English terminologies in disaster risk management or languages of the United Nations Organisation (UNO) has always been an impediment (O’Brien et al. 2018) – it alienates communities who are not well versed in the language. Therefore, it was decided that this course would also be delivered in Gujarati through an oral and written translation of the English content. It was decided that documents like the SFDRR (to be used as complementary reading material) would not be translated into Gujarati, but otherwise, all of the content of the English course would also be prepared and delivered in Gujarati – Pillar 7
Considering the above-mentioned points as guiding pillars, the core team of GIDM started working on the script and visualizations through virtual consultations among each other during the lockdown.

### 2.1.1 Designing the course

The core team divided the course into three units; the first unit on ‘Understanding Disaster Risk’, the second unit on ‘Understanding Disaster Risk Management’, and the third unit on ‘Evolution of Disaster Risk Management at the Global and National Level’ (emphasizing on the disaster management machinery of India and in the state of Gujarat. The first unit was divided into two sessions – Session 1 on hazards and Session 2 on exposure, vulnerability, coping capacity, disaster risk, and disaster.

The first unit emphasizes the first three pillars – hazards are not disasters, and disasters are not natural. The second unit covers the fourth pillar and talks about disaster risk management, more as a combination of disaster risk reduction and disaster management rather than a disaster cycle. The third unit is divided into two sessions. The first session covers the evolution of disaster management to disaster risk management at the global level, while the second session talks about the evolution of disaster management in India and the established disaster management machinery at the national and state level. The script became the course transcript, and documents from UNDRR (UNDRR 2015a) on hazard, exposure, vulnerability, coping capacity, disaster risk reduction, and resilience were customized for reading materials. This was supplemented with certain videos in each unit. In Unit 1, the video (GFDRR 2016) was used to support the understanding of disaster risk. In unit 2, the video (EasyFilmsTM-Produktion von animierten Erklärvideos 2017) was used to reinforce the understanding of integrated disaster risk management.

To summarize SFDRR, [37] was used. In addition to this, the National Disaster Management Act of India (2005), the National Disaster Management Plan of India (2019), and the Sendai Framework for Disaster Risk Reduction (SFDRR) were also added as a part of the course – these hefty documents were not made mandatory but optional with an intent to encourage inquisition of learners to know more about such legislative measures. So, finally, the course had three units and five sessions covering all six pillars [a-f].
Addressing the seventh pillar became a challenge – how does one translate the course into a vernacular language, ensuring that the true meaning of the words (semantics) is not lost in translation? In fact, it was not just transliteration – the essence of words like disaster risk, resilience, etc., had to be maintained as far as possible, and that too in a dialect of the vernacular that is comprehensible. A smaller team was constituted, comprising 5 members from GIDM, who were well versed in Gujarati and also had more than twenty years of cumulative experience in Gujarati as a working language in the government, a translation professional, and a representative from the Gujarat State Disaster Management Authority to ensure that the words being used are in line with the words used in the state-level policies and various plans. Each document (5 transcripts of five sessions and nine reading materials) was translated by the team and cross-checked by senior officials in the government. Once these were finalized, the team moved on to the next activity of making videos. The Gujarati translation took more time; hence, the Gujarati course was launched after six months of the English course.

Five videos were made per the division of units and sessions, and the script (transcript) was used for voiceover in English and Gujarati. Efforts were made to ensure that the videos were of sufficient length to maintain the concentration span of learners. The total time span of the course was adjudged to be 5 hours. From all of these videos, two teasers were tailored out, one in English (GIDM 2020f) and the other in Gujarati (GIDM 2020g), to use as promotional videos. These teasers were again based on the identified pillars to arouse the interest of prospective learners. At the end of each unit, an assignment consisted of ten multiple-choice questions based on the unit’s content. These questions were not designed to test the intelligence of the learners but to underline some key takeaways of the content in each unit. The objective was to ensure that learners could easily answer them if they had gone through the videos in each unit and session.

As pointed out above, the Gujarati translation took much longer than expected, but the English course was ready by August 2020. The next step was identifying a Learning Management System (LMS) to launch the English course. The National e-Governance Department (NeGD) within the Ministry of Electronics and Information Technology was approached by GIDM. NeGD agreed to design a dedicated LMS for GIDM to launch its English Course (GIDM 2020c).
The platform was developed within a month and required several consultations between the GIDM and NeGD teams to ensure that the learning experience was as smooth as possible. The team realized that all these efforts needed to be supplemented with a proper dissemination strategy.

The promotional video of the English course and a brochure (GIDM 2020e) was circulated through the social media handles of GIDM and UNDRR’s Preventionweb. A total of 1103 emails were written from the Desk of the Director General of GIDM to national and state-level bodies, institutes, universities, etc. informing them of the course. Finally, the course was launched on 2nd September 2020.

**Performance of the English course**

A month after the launch, on 2nd October 2020, the course had 2228 registrations, with 1039 learners who had completed the course, i.e. a completion rate of 46.63%. A semi-detailed analysis (descriptive statistics) of the course has been tabulated below.

As clear from the below, the majority of the learners have been from government organizations and the public sector. Interestingly, the letters written from the desk of the Director General of GIDM were addressed to all heads of the departments of the Government of Gujarat as well as heads of institutes and organizations of Gujarat and other states like disaster management authorities, disaster management institutes, administrative training institutes, etc. A letter coming from the head of the state’s apex capacity building institute in disaster risk management, GIDM, ensured the adoption of this initiative to spread awareness about the fundamentals of disaster risk management, which would not have been possible otherwise or would have required long-drawn strategies of public promotions. Further investigation into the available statistics from the LMS revealed that in addition to the government departments and public sector organizations, a good proportion of registrations were received from all those organizations and institutions which are partner institutions of GIDM (partnered by means of a Memorandum of Understanding for various different projects and collaborative activities).
By March 2021, the Gujarati course was completely ready to be launched. Looking at the performance of the English course on NeGD, GIDM needed to rethink the LMS platform and its dissemination plan. The Gujarati course would primarily be of no interest in other states of India, and therefore the focus should exclusively be on Gujarat. Various government departments of Gujarat, organizations, and higher education institutes were already aware of the English course and were enrolling and completing the course and, therefore, would not find the course useful. The English course taught some useful lessons too, which needed to be considered in the Gujarati course.

Table 1: Performance of the English course on NeGD till May 2022
1. The ownership of the English course on NeGD’s LMS is with GIDM. Thus, the responsibility of disseminating the course and ensuring its completion by following up with learners falls upon GIDM. The structure of governance of the state puts GIDM at the apex but does not give it the authority to enforce compliance with its initiatives. The contribution from government departments and public sector organizations/institutes in the English course, as learners, flows from various other aspects like the reputation and leadership stance of GIDM, exhaustive dissemination and follow-up strategy taken up by GIDM, especially with its MoU partners and also upon the sensitivity of department/institute heads to the concerns of disaster risk management. For example, the constant persuasion of GIDM led to the issuance of a notification from the Health and Family Welfare Department of the Government of Gujarat in December 2020, urging all Medical Officers (MOs), Ayush doctors (Ayurveda, Unani, Siddha and Homeopathy practitioners), Community Health Officers, Taluka Health Officers (THOs) and Assistant Health Administrators (AHAs) to compulsorily complete the course in three weeks’ time and produce certificates.

Figure 1: Order issued by the Department of Health & Family Welfare
The course was disseminated as a self-paced course, i.e., the learner had the freedom to complete it at their convenience. This had its own disadvantages – a not-so-high completion rate. While GIDM does its best by following up with learners who have not completed the course via email, the results have not been encouraging.

The notification (Figure 1) showed how the existing governance structure could be leveraged to ensure course completion.

It was realized that the ecosystem is not very conducive to disaster risk management courses of this nature – all efforts aside, much of it is left to the interest of the learner, which is steered by aspects like enhanced job prospects. The only exception is when the ecosystem is made conducive by leveraging the involvement of decision-making authority (government department, dean of a higher educational institute, etc.) either by building the interest of learners through dedicated interactions or by ensuring compliance with directives.

Considering the above lessons, GIDM decided to launch the Gujarati course (and the English course too) on DIKSHA. DIKSHA (Digital Infrastructure for Knowledge Sharing) is a national platform for school education, an initiative of the National Council for Education Research and Training (NCERT), Ministry of Education of the Government of India. DIKSHA has been adopted by all states and Union Territories (UTs) of India and across all education boards like the Central Board of Secondary Education (CBSE), Council For The Indian School Certificate Examinations (CISCE), etc. Each state/UT leverages the DIKSHA platform in its own way, as it has the freedom and choice to use the varied capabilities and solutions of the platform to design and run programs for its teachers and learners. In the context of COVID-19-related disruption of schooling, DIKSHA made it possible for all states/UTs to enable learning/education at home through innovative state programs, hence leapfrogging the use of technology for the benefit of teachers and learners across India. As of 18 February 2021, DIKSHA has 2,685 courses, and 84,61,0676 enrolments in India, and the state of Gujarat has 61,49,802 enrolments from teachers, students, parents, and other interested learners. While the Gujarati course was meant for users from Gujarat, the English course, which was re-launched on DIKSHA too, was meant for interested learners from any part of the country.
However, GIDM realized that launching the course on DIKSHA would not be enough – the ownership of the course has to be shared. Therefore, GIDM reached out to Samagra Shiksha (SS), Gujarat. Ministry of Human Resource Development, Government of India, in 2018, launched Samagra Shiksha as an integrated Scheme for school education through the integration of - Centrally Sponsored Schemes (CSSs) of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE). Samagra Shiksha aims to provide inclusive and equitable quality education to all children from the age of 4 to 18 years and at all levels of school education from preschool to Senior Secondary in the country in accordance with the United Nations’ Sustainable Development Goals (SDG-4) for Education. Samagra Shiksha readily agreed to collaborate with GIDM and thus, the ownership of the course was now shouldered by two entities of the government. Following suit, Samagra Shiksha launched the course on 24 May 2021 and sent out notifications to all its registered users on DIKSHA in Gujarat to complete the course, either in English (GIDM 2020d) or in Gujarati (GIDM 2020a) by 15 June 2021 (Figure 2). GIDM, once again, leveraged its social media handles and other networks to disseminate both courses on DIKSHA.

Figure 2: Order issued by Samagra Shiksha
III. Lesson Learned & Challenges

3.1 Performance of the courses on DIKSHA

3.1.1 Quantitative performance of the courses on DIKSHA

On the 14th of June 2021, the English course had 22,508 registrations, with 8,840 learners who had completed the course. This was way higher than the registrations on NeGD’s LMS. Figure 3 depicts the state-wise distribution of learners of the English course on DIKSHA, as on 14th June 2021. In addition to Gujarat, learners from other states can also be seen taking an interest in the course. However, the effect of the notification (Figure 2) can be seen clearly in the number of registrations from Gujarat.

![English Course: State wise distribution of learners](image)

*Figure 3: State wise distribution of learners of the English course on DIKSHA (as of 14th June 2021)*

The Gujarati course had 1,21,101 learners, with 95,803 learners who had completed the course. The completion rate was 79%. The progress chart of the Gujarati course is given below.
The overwhelming completion rate urged GIDM to understand if the course is effective at all. The assessments (each unit is followed by an assessment of 10 multiple-choice questions) associated with the courses were analyzed. The assessments of those who had completed the English course from Gujarat by 26 June 2021 were analyzed, as shown in Figure 5. As of 26 June 2021, the English course had 29,587 registrations with 12,444 learners who had completed the course. The completion rate was 42%.

Figure 5: Analysis of assessments of learners from Gujarat in the English course

3.1.2 Qualitative performance of the courses on DIKSHA

The overwhelming completion rate urged GIDM to understand if the course is effective at all. The assessments (each unit is followed by an assessment of 10 multiple-choice questions) associated with the courses were analyzed. The assessments of those who had completed the English course from Gujarat by 26 June 2021 were analyzed, as shown in Figure 5. As of 26 June 2021, the English course had 29,587 registrations with 12,444 learners who had completed the course. The completion rate was 42%.

Figure 4: Progress chart of the Gujarati course on DIKSHA (as of 14th June 2021) *X-axis denotes the percentage of the course completed
Although normally distributed, the results were upsetting as the questions of the assessments were designed to ensure that learners could answer them easily. However, out of all those who had completed the course (barring some glitchy records), only 33 learners could score between 90% - 100%, and a majority could only score between 20% - 70%.

A similar analysis was done with the assessments of learners from Gujarat in the Gujarati course on 26 June 2021, which had 1,43,616 registrations with 1,20,283 learners who had completed the course. The result is depicted in Figure 6. The results were interesting – the majority of the learners had a score between 90% to 100%. Perhaps this indicates that the delivery of courses on disaster risk management and such allied subjects yields good results in a vernacular language.

![Analysis of Assessment of Gujarati Course on DIKSHA](image)

**Figure 6: Analysis of assessments of learners from Gujarat in the Gujarati course**

The content of the course and the questions of assessments are the same, the only difference which could have steered the stark disparity in Figures 5 and 6 is the delivery and explanation in vernacular language – Gujarati in this case.

To investigate further, an analysis was done to understand the trend of selection of the language of the course across all the districts of the state of Gujarat. Figure 6 shows the result, and it depicts that the majority of learners opted for the Gujarati course, which facilitated a better understanding of the concepts of disaster risk and its management, which in turn led to higher scores in the assessments of the Gujarati course.
Multi-Hazard Resilience of Higher Educational Institutions in Asia Pacific

IV. Conclusion

The attempt made by GIDM brings into light certain pertinent points that need to be considered in similar endeavors. Comparison between the same courses launched on NeGD’s LMS and DIKSHA reveals that understanding the existing governance machinery of a state and leveraging it for ‘good disaster risk governance’ is key to successful disaster risk reduction strategies, including large-scale initiatives of public awareness and such strategies can’t be implemented and executed by a department or institute alone. The existing mandate within the governance framework of Samagra Shiksha (Education Department of the Government of Gujarat) was leveraged by GIDM to empower a large section of people to think about disaster risk. The decision taken by GIDM to collaborate with Samagra Shiksha and deliver the course on DIKSHA yielded better results, while GIDM could only urge and request departments, institutes, and organizations to take up the course and complete it (as in the case of the course on NeGD’s LMS), Samagra Shiksha, within the Education Department, leveraged its mandate to develop the capacity of stakeholders in the education sector by creating a conducive ecosystem for the sustenance of the course through compliances. This is a fine example of good disaster risk governance and how existing governance structures can be utilized to launch large-scale awareness programs, which are the need of the hour. In fact, the notification from the Health Department (Figure 1) of the Government of Gujarat could be said to be the torchbearer of good disaster risk governance.

Figure 7: Analysis of learners of both the courses in the districts of Gujarat
The second point that needs to be underscored is the proper medium to deliver the course. DIKSHA was an existing tool used by the Education Department of not only Gujarat but also other states and UTs of India. Thus, launching the course through a medium with a huge user base made the dissemination relatively easier compared to the course on NeGD’s LMS.

The third point, which is the most important point, is the language of the course. Figure 8 clearly shows that learners are keen on opting for the Gujarati course across the state of Gujarat. Figure 6 expressively depicts that learners tend to understand better when vernacular language is used to explain and elaborate technicalities. The role of vernacular language in democratizing the concept of disaster risk, disaster risk reduction, and management cannot be emphasized enough, and more efforts should be made towards breaking down the technicalities in vernacular language rather than erecting barriers of language and alienating the entire concept of disaster risk management being everyone’s business. How can we say that disaster risk management is everyone’s business when no one understands disaster risk in their own words and language?

The documented experience shows the effectiveness and efficacy of vernacular language in the discourse of disaster risk management. Thus, more and more efforts should be made at the national level to bring the fundamentals of disaster risk management to the masses through words and language they understand better in the other states of the country. Efforts should be made to let people talk, discuss, debate, explain, and express disaster risk management and resilience in their language!

The English course on DIKSHA remains largely untapped, and it can prove to be immensely promising in other states of India if appropriately disseminated through the existing structure of governance (with the support from the National Disaster Management Authority of India) as well as through collaborations with agencies like UNICEF, UNDRR, etc. Figure 7, although it depicts the trend in opting for the courses, it also shows a disparity among the districts of the state, which may be due to the population of potential learners in the districts, the existing digital divide amongst the districts, lack of outreach in those districts, etc. This, probably, could become an avenue of future investigation to ensure further betterment of the effectiveness of such courses.
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CASE STUDY 4

Management of Higher Educational Institution amid COVID-19: Case Study of Kathmandu University, School of Education (KUSOED), Nepal

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Management of Higher Educational Institution amid COVID-19: Case Study of Kathmandu University, School of Education (KUSOED), Nepal

I. Background

On 31 December 2019, the first case of COVID-19 was reported in Wuhan, China (Fang et al., 2021). The pandemic had a widespread effect on all spheres of society, including health care, global governance, social culture, and interpersonal relationships (Pal, Shaw, et al., 2022). There were six factors for the rapid escalation of the COVID-19 crisis: the pace of the spread of COVID-19, globalization or interconnectedness, constraints in the health sector capacity, the inefficiency of state support, the tradeoff between health and economy, and ongoing impact of fragilities of 2008 financial crisis in many countries (Collins et al., 2020). The pandemic triggered a global disruption that affected the global community for a prolonged period (Woods et al., 2020). As a mitigation measure, Governments were forced to impose stricter restrictions on travel and social gatherings to control the spread of the virus, which cascaded impact on the lives and livelihood of the people.

Human interaction and mobility were restricted to prevent the virus's spread without a plan to address economic and social consequences (Pal, Shaw, et al., 2022). Limited engagement and mobility hampered global function. Like many sectors, education was also severely impacted (Pal et al., 2023).
According to the United Nations of Educational, Scientific and Cultural Organization (UNESCO)(2020), after the outbreak of COVID-19, more than 188 countries around the globe were forced to close their educational institutions of all levels (schools, training institutions, or higher education institutions) which directly impacted 1.58 billion learners. To mitigate the crises as an alternative approach, educational institutions shifted their modality from in-person to virtual classes (Mishra et al., 2020). However, the study by Abbasi et al. (2020) has discussed that the majority of students preferred in-person classes instead of virtual ones.

Furthermore, there was also learning disparity or inequity among students as virtual teaching and learning require devices like laptops and smartphones with access to an internet connection (Abumalloh et al., 2021; Ng, 2020). However, many students in developing and underdeveloped countries were not privileged to have such devices and internet connectivity for their learning. United Nations International Children’s Emergency Fund (UNICEF) (2020) claimed that there is an inequality in remote learning access, which threatens to magnify the global learning crisis. The study by Srinivasan et al. (2021) also claims that inadequate technology, like the absence of devices and internet connectivity, was a major challenge for rural students, hindering their learning experience. Additionally, many universities were new to digital education governance (UNESCO, 2020).

Like many countries, Nepal also implemented a nationwide lockdown to control the spread of COVID-19(Piryani et al., 2020), forcing the closure of educational institutions throughout the country for a prolonged period. The nationwide lockdown, suspension of academic activities, and uncertainty of opening educational institutions have affected the daily lives of students, teachers, and staff by increasing costs and a financial burden (Pal et al., 2023; Rayamajhee et al., 2021). However, some measures were implemented to continue the teaching-learning process by implementing virtual classes in educational institutions in Nepal. Yet, the virtual mode of teaching was ineffective on many occasions (Tulza, 2020). Similarly, the study by Pal et al. (2021) also claimed that the lack of appropriate infrastructure and system and skilled human resources in Nepal leads to the ineffectiveness of virtual classes. In addition, limited internet connectivity, especially in remote areas of Nepal, posed a key challenge for conducting virtual classes.
The COVID-19 pandemic and its global consequences pushed higher education institutions into a problematic situation. Adapting to the new normal for educational continuity became a major trial as the rapid adoption of digital education governance couldn’t provide a comprehensive solution (Pal, et al., 2022). Amid the COVID-19 pandemic, universities in many countries adopted different strategies to mitigate the impact of COVID-19 in higher education. One of the strategies was to adopt an alternative way of teaching and learning and apply innovative e-learning techniques. Most of the universities of Nepal also adopted online learning. However, as discussed above, the virtual class mode was often ineffective. Consequently, with the extended crisis, the impact of COVID-19 was severe in academia. Walby (2022) mentions that the COVID-19 crisis was unexpected, and institutions were unprepared to respond to it. Therefore, adopting online classes was insufficient to mitigate the impact of COVID-19. Thus, the vacuum of crisis management was seen in the higher education institutions in Nepal, leading to the urgency of making contingency plans to sustain the functionality and deal with future crises.

II. Aims and Objectives

Every challenge gives rise to an opportunity. Good planning, cooperation, and communication could help universities prepare for crises like COVID-19. Regehr and Goel (2020) claim that five stages (pre-planning, approaching crisis, immediate crisis, prolonged uncertainty, and planning for restart and recovery) of crisis management guided the University of Toronto in Canada to mitigate the impact of COVID-19. In the case of Nepal, most of the universities struggled to initiate during the early phase of the crisis (Pal et al., 2023). However, KUSOED successfully managed and mitigated the crisis of COVID-19. KUSOED followed the government's protocol for the health and safety of all stakeholders. All the departments of KUSOED were able to continue their academic activities amid COVID-19. Consequently, the academic calendar of the school was not affected. Thus, taking the case of KUSOED to understand adopted strategies and actions to mitigate the crises, the study aims to explain the crisis management methods implemented by KUSOED during COVID-19.

Answering the research question, “How did KUSOED mitigate the crisis of COVID-19 and continue academic activities during COVID-19?”, this study explains through the lens of the crisis management model the key methods implemented by KUSOED to continue the academic activities during COVID-19. The study keenly looks at the aspects of the key response initiatives.
Firstly, the study explains the concept of crisis and crisis management models. Secondly, it discusses the methodology implemented in this study. Afterward, by examining through the lenses of the adopted theory, the study explicates the interventions and actions taken by KUSOED to mitigate the crises.

2.1 Crisis and its management models

Different crisis management models are useful in managing crises (as provided in Table 1). The study reviewed these models in detail to determine the best model to be used in the case study.

<table>
<thead>
<tr>
<th>Name of Model</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fink's model of crisis management</td>
<td>This model of crisis management suggests four stages of crisis management: prodromal, acute, chronic, and resolution</td>
<td>(Marker, 2020)</td>
</tr>
<tr>
<td>Mitroff's five-stage crisis management model</td>
<td>Mitroff's five-stage crisis management model consists of signal detection, preparation/prevention, damage limitation, recovery, and learning stages.</td>
<td>(Mitroff, 1988)</td>
</tr>
<tr>
<td>Burnett's three broad-stage crisis management model</td>
<td>The process of Burnett's model to respond to crisis involves goal formation, environmental analysis, strategy evaluation, strategy implementation, and strategic control.</td>
<td>(Burnett, 1998)</td>
</tr>
<tr>
<td>Tony Jacques’s relational model of crisis management</td>
<td>Jacques’s relational model of crisis management argues that crisis management is not a linear phenomenon of different issues which can be managed at different times. Instead, he claimed that different activities and processes occur simultaneously during the crisis.</td>
<td>(Jacques, 2007)</td>
</tr>
<tr>
<td>Incident command system (ICS) model</td>
<td>The incident command system (ICS) model developed in the 1970s suggested five major functional areas: command, operation, planning, logistics, and finance/administration, including a focal person in each area to respond to the crisis.</td>
<td>(Marker, 2020)</td>
</tr>
<tr>
<td>Three-stage crisis management model</td>
<td>This model identifies three stages of crisis management: pre-crisis, crisis response and post-crisis. The preparation and prevention should be considered in the pre-crisis phase. Similarly, the action plan for a crisis must be performed in the crisis-response phase. In the post-crisis phase, the crisis and its response should be evaluated and prepared with better preparation for future crises.</td>
<td>(PRI, 2007)</td>
</tr>
</tbody>
</table>

Table 1: List of the crises management framework
All these crisis-management models are important to understand the response methods of crisis. However, this study has used the concept of the three-stage crisis management model developed by PRI (2007). The reason for using this model is that it is easy to understand, provides the basic framework of all the models explained above, and integrates the features of all the models.

2.1 Methodology

This study has applied the case study approach. According to Thomas (2019), a case study analyzes a single phenomenon which may be either a single person, event, or incident to examine theoretical issues. The case study can be conducted either on a post-positivist or non-positivist philosophical foundation. In the post-positivist foundation, a researcher assumes and measures objective reality independently (Rashid et. al, 2019). A researcher like Yin (2014) conducted a case study with a positivist foundation. In a non-positivist foundation, a researcher believes that each individual constructs and perceives their own reality, providing multiple views to researchers (Greener, 2008). Researchers like Marriam (1998) and Stakes (2005) applied a non-positivist foundation in their case study research. This study used a non-positivist foundation. Likewise, through consultation with the faculties and staff from Kathmandu University-School of Education (KUSOED), the study selected the information-rich cases as suggested by Yin (2014). To cover the rich information from all directions, we have selected three professors, three students, and two staff members (altogether eight) who were engaged with KUSOED during COVID-19.

2.2.1 Data collection

The study participants were three teachers (Participant Eitaman, Participant Fatteman, and Participant Govind), three students (Participant Aman, Participant Bharat, and Participant Hari), and two staff (Participant Cela and Participant Dambar) from the School of Education of Kathmandu University. We called seven participants for their availability for the phone interview. One participant was contacted through email. Once they agreed, we scheduled the interview date. We implemented a semi-structured in-depth interview method. This method is important in understanding individual perspectives on one or a few defined themes (Michal-Shamir et al., 2019). Five interviews were conducted face to face and three in virtual mode. The interview duration was 20-30 minutes. During the interview, we listened to them carefully and patiently. At the end of the interview, we asked them to add up their experience which we failed to capture. We also got their consent to record the interview.
We also observed the behaviour of participants during the interviews. After returning from the field, we reflected field experiences in the note.

2.2.1 Data analysis

In order to analyze data, we transcribed all the recorded interviews. Then, we coded the transcribed document. Then coded data were categorized, and the themes were developed from the coded data, considering the three-phase crisis management model. Similarly, we analyzed different documents available in KUSOED to complement the findings from the interview and see if they were consistent with the themes developed from the coded data. Likewise, credibility was maintained at every stage of the research. Mainly, we did not try to impose our preset thinking and minds during the research. Similarly, we remained ethical in our critical and reflective roles at every stage of the research process.

III. Lesson Learned

The analyzed data established strategies implemented by KUSOED in pre-crisis, crisis response, and post-crisis stages to mitigate the impact of COVID-19 for academic continuity. The findings of this study asserted that the organizational culture of KUSOED marked by preparedness and existing Information Communication Technology (ICT) applications, was crucial for mitigating the crisis. In conclusion, contingency plans, communication, and teamwork played a vital role in continuing academic activities during the crisis. Importantly, learning from the crisis and continuity of using ICT smoothened academic activities in the post-crisis stage. The following sections explain the strategies implemented by KUSOED in three stages for COVID-19 crisis management.

3.1 Pre-crisis stage: Organizational culture of preparedness and existing ICT

During the interview and data analysis process, all the participants seemed confident that the School of Education was prepared for the COVID-19 crisis management. Although they were concerned about the health and safety of themselves and their family when COVID-19 started to spread rapidly throughout the world, they believed that the School of Education would continue the academic activities. In order to comply with government regulations, Kathmandu University also decided to close the University for one week as soon as the Government of Nepal announced the first lockdown from March 24 to March 31, 2020. A week later, the School of Education resumed its academic activities.
The School of Education had a vision of globalization and was ready for an alternative online teaching method, allowing academic activities to continue throughout the week. Before COVID-19, the School of Education was preparing for a virtual learning environment. Since 2012, they have been creating a virtual learning and teaching environment as part of their organizational culture. The infrastructure for teaching in a virtual environment had already been developed at the School. They had prepared their instructors and students for online instruction and learning. They already had some of their master programs operating in blended mode. The readiness of the organization allowed them to continue their academic pursuits right away at the start of COVID-19. One of the teacher participants, Eitaman, shared:

“We were initially concerned about the health. I realized that CORONA was something serious and deadly. After the first lockdown in Nepal, we closed our school for one week but immediately started online classes as an alternative method. We were prepared for a virtual mode of teaching. Skills and technology were already available for regular faculty. Even our visiting faculties were competent enough to run online classes. Actually, we have been running some of our programs in online mode since 2015. So, we were not worried about new methods of teaching. We were used to the system and we continued with the new methods very easily. It is not just because of COVID-19, we were preparing for internationalization, and we had all the infrastructure. Internationalization, quality education, and equity were our visions. We were in the process of becoming an ICT-friendly school.”

Therefore, the culture of preparedness for the virtual mode of learning helped the School of Education to continue its academic activities immediately. In an interview, another teacher participant, Fatteman, expressed a similar opinion:

“When the lockdown started in March 2020, taking physical classes was impossible. I think the University was closed for one week. But within one week, we were able to continue our academic activities. We already had the experience of teaching virtually in our department. We started our Mphil program in blended mode before COVID-19. There was no fear of losing academic sessions. We were prepared for the online class. The main concern was the health of our students and staff and the difficulty of traveling. We also learned from the 2015 earthquake (where our buildings...
...became vulnerable and needed to be retrofitted) and the immediate economic blockade by India in 2015, where we could not continue with physical classes. At that time, we started online teaching mode. Consciously or unconsciously, we were in the direction of implementing a virtual mode of teaching and learning in KUSOED."

This demonstrates how the School of Education was set for online instruction. With virtual teaching practice, the school was successful in adopting international practices. The immediate shift in adopting digital technology was backed up by the experiences the school had while managing earlier crises like the earthquake and the economic blockade of India. They then established an organizational culture of alternative teaching, which initially assisted them in reducing the impact of COVID-19. Most importantly, effective ICT was a key requirement for moving to teaching and learning online. The entire platform needed for online teaching and learning was available at the school. Prior to COVID-19, Moodle was used as an online learning platform. The school previously ran a virtual program using the Zoom and Google Meet platforms. On this, Bharat, one of the student participants of the Department of Development Education, shared his experience as follows:

"Academic activities were halted for one week. One thing I liked about my school was its preparedness for crises. Teachers were working on the issue immediately. They brought the meet system immediately. A virtual platform was implemented. I was a master’s graduate from another university in Nepal and I joined the MPhil at KUSOED which was physical at the beginning. However, we were already introduced to Moodle (a virtual learning platform). Later, Google Meet was connected for video conferencing as well. The KUSOED had alternative methods of teaching before COVID-19. I believe this kind of preparedness was what made this school maintain its academic calendar."

The experience of the participants shows that the School of Education was well-equipped with all the infrastructure and ICT required for online learning before COVID-19. On the same issue Dambar, one of the staff participants, shared his experience as follows:
“After the first COVID-19 case was seen in Nepal, we were confused about the continuity of classes. But KUSOED management started a discussion on taking classes online immediately. Once the government decided to lock down, classes were promptly directed to the online mode. School of Education was ready for this as there was a Moodle system before Corona. Some Master programs were being run on blended mode before. Then, we conducted all programs from the Moodle platform. This system already existed there, so it was not difficult for us to continue our academic activities in such a crisis time.”

Similarly, Cela, another staff participant, shared her experience with distributing resources online:

"Once the lockdown started, with the decision of the school, our school decided to continue the course immediately. One of the essential things to continue academic activities was to make resources like books from the library available. As librarians, we were instructed to make books available online. And we already had an online library, where students could access lots of resources for their studies."

Likewise, Fatteman, another teacher participant also shared his views regarding ICT:

“Our students were trained in Moodle and Google Meet before. We used to use Moodle as an online learning platform before COVID-19.”

These experiences of staff and teachers show that the School of Education was well prepared in terms of the required ICT infrastructure in a different dimension for academic continuity. They were already using Moodle platform for online learning and Google Meet for video conferencing. These kinds of existing ICT platforms helped the School of Education of KU to change its teaching style from face-to-face mode to virtual mode.

Thus, the School of Education managed to continue its academic activities immediately within one week of the first lockdown. It was possible because they had developed the culture of virtual teaching in their organization and were ready with ICT infrastructure as well.
These experiences of participants drove us to the crisis response phase and we tried to understand the crisis-mitigating strategies of the School of Education during the crisis response phase.

### 3.2 Crisis response stage: Communication, contingency plans and teamwork

The School of Education had a good mitigation plan during the pre-crisis stage. But COVID-19 was prolonged for an uncertain time. There were challenges to continuing academic activities and ensuring the health and safety of students, teachers, and staff. The School of Education is required to overcome those challenges. They managed to overcome these challenges through proper communication, prompt response, and teamwork.

From the very beginning of COVID-19, communication was important for continuing academic activities. Teachers, staff, and students were locked in their homes. In that scenario, it was important for all stakeholders of the school to get information about classes, assignments, exams, and health on time. School of Education ensured timely information for the continuation of academic activities. They used dedicated School email and other social media platforms to communicate with all the stakeholders. In order to flow the information, the School used to conduct meetings frequently among staff and teachers. In the communication, Fatteman from one of the departments at KUSOED expressed his views as follows:

> "Our department was only closed for one week. And, after one week, we were able to continue. For this, we communicate with students intensively via email, Viber, and WhatsApp. At that time, health was more important, so we closed the university for one week and during that week, we communicated with students and convinced them to continue their academic activities. Also, to remove anxiety and fear, we shared the experience of COVID-19. In class, we used to share the status of COVID and how to mitigate the COVID problem. We used to discuss what to do and not to do if someone was infected with COVID-19. This was a useful strategy to mitigate the COVID-19 impact. It was an encouraging and positive aspect. We used to have meetings regularly though we were sitting at home. We were meeting so many times. Meeting with staff, meeting with Dean sir, departmental meeting, meeting with students. Actually, there were lots of online meetings."
...It made it possible for us to continue academic activities efficiently. Communication was efficient. The Central administration communicated with the Dean. And, the Dean communicated with us. Everyone used to communicate through emails, Messenger, Viber, and Google Meet. If there was any kind of crisis, they used to share and even meet via Google Meet. Senior professors also used to communicate everything related to COVID-19 via email. There was a good flow of communication.

It clearly shows that the School of Education was frequently communicating with all stakeholders. Likewise, one of the student participants, Hari, highlighted communication thus:

“There was never a communication gap. If I remember today, even our coordinator used to inform us via email and Viber group. They used to update us about everything regarding our classes. Every teacher used to communicate with us regarding their respective subjects. So, we were always connected with them."

These experiences of the participants show that effective and frequent communication played an important role in academic continuity during COVID-19 in KUSOED. The School also gave priority to effective and timely communication making academic activities smooth. They were frequently publishing notices regarding COVID-19, classes, and exams which were communicated via email. During COVID-19, the School completely changed teaching and learning to online mode. The existence and impact of COVID-19 were unknown. Many challenges were evolving very fast. Contingency management and prompt response were necessary to ensure the continuity of academic activities online. The first challenge was to start online classes immediately. Also, there was a question about the validity of the online mode of teaching. However the Academic Council of the University acted promptly and created the guidelines for teaching and learning online. On this prompt contingency plan one of the teacher participants, Govind, shared his views as follows:

“When COVID was prolonged, we immediately created guidelines for online learning. Teaching pedagogy, rules, and regulations were created immediately. KU also took immediate initiatives. They developed electronic learning systems like KU electronic forums. They developed an e-learning committee...
One of the challenges was also ensuring the health and well-being of students, staff, and teachers. For this, Kathmandu University (KU) created a medical response team immediately. Counseling was provided for all stakeholders and medical support was made available. On the prompt response of creating a medical response team, Fatteman shared his views thus:

“That committee created guidelines for online learning. We were also in the team. Following those guidelines, we did not stop education and we did not stop exams. We made the admission process online. Results were also published online.”

One of the challenges was also ensuring the health and well-being of students, staff, and teachers. For this, Kathmandu University (KU) created a medical response team immediately. Counseling was provided for all stakeholders and medical support was made available. On the prompt response of creating a medical response team, Fatteman shared his views thus:

“One important thing was health (both physical and mental) to continue the academic activities during that period. So, at that time KU (both the VC office and registrar office) formed the COVID response team at Dhulikhel Hospital, the teaching hospital of KU. One of our Professors was a member of that team. They frequently organize meetings and consult all students, teachers, and staff about COVID-19, its precautionary methods, and the things to do during COVID-19 infection. Many friends of this school were supported by KU. Even sometimes ambulances were made available for COVID patients. This increased the morale of students, teachers, and staff. Everybody believed if anything went wrong, there was our organization to look after us.”

Another challenge was on the technical part like internet connectivity and the incompetency of teachers and students on the uses of the online platform for academic continuity. School of Education promptly worked on this challenge to smooth academic activities. Students, teachers, and staff were provided with a free data pack. Staff participant Dambar shared his experience on this:

“To make the study easy, we provided a data pack to the students. We identified the network used by students. Then we bought a 500 GB data pack for each student. This was also provided to staff and teachers. This helped those students and teachers who did not have a proper internet connection.”
With such free data pack, teachers and students could continue their academic activities even if they had connectivity problems. Similarly, the School provided training to students and teachers who were incompetent in using online learning platforms and video conferencing tools. In this regard, student participant Bharat said:

“I personally believe the School of Education was quick to introduce the virtual platform and it benefitted us. Our department trained us to use different virtual platforms like Moodle, Google Meet, and Zoom. At least we were assured our academic activities would not stop.

Likewise, teacher participant Eitamann said in the prompt response on training:

“We organized online workshops to support teachers in technological aspects and teaching aspects. These workshops were for those teachers who faced difficulties in conducting online classes. In case of teaching-learning support, our IT team was available 24 hours.”

Such sharing shows that the School of Education promptly organized training for students and teachers to smoothen academic activities. Likewise, many students and teachers were concerned about monotonous online classes. They were worried about whether online classes would be engaging or not. Similarly, the question of quality and online exams was also raised. To address these issues, the school introduced a contingency plan of changing teaching methods to make classes more engaging. And, with the support from the University, the School brought alternative ways of online assessment, including questions that demanded critical analysis. This helped maintain the integrity and quality of assessment promptly. On this aspect, Eitamann shared:

“When COVID entered Nepal, the University immediately made guidelines for online teaching-learning, which focused on making classes activity-based rather than lecture-based.”

Similarly, Fatteman shared his experience on maintaining quality of exam thus:

“Online exam guidelines were there. Through that, we came up with open-book exams. Again there was a problem with copying. So we immediately decided to ask such questions, answers of which could not be copied even from Google. ...
These experiences show that the School of Education was quick in decision-making and responding promptly to mitigate different challenges to run academic activities continually during the crisis. One of the success factors of the School in continuing academic activities even in crisis was their ability to make prompt contingency plans. To make all communications effective and to respond promptly to COVID-19, teamwork was very important. School of Education collectively worked to fight against COVID-19 and continued academic activities quickly. On teamwork, teacher participant Fatteman said:

“I believed that it was a team effort to mitigate the impact of COVID-19 in our department. I believed that collective effort made that possible.”

Similarly, on teamwork Dambar, a staff participant, shared his view as follows:

“In the second phase, manpower was utilized properly. Works were divided and we used to come to KUSOED in different shifts to reduce the mass gathering. Even Dean Sir was very concerned about this. Anyhow, we managed to continue our academic activities with our teamwork.”

Thus, for the School of Education, teamwork was an important factor that drove them through the COVID-19 pandemic. Once COVID-19 started decreasing and the lockdown was eased, the School had a lot of experience through learning from the crisis response phase. It was necessary for them to continue their academic activities even after the crisis response stage. This took us to identify their strategy after the crisis response stage i.e.post-crisis stage.

3.3 Post-crisis stage: Learning from the crisis and continuity of ICT

As explained by teacher participants above, they learned a lot from crises like the earthquake in 2015, and the Indian economic blockade in 2015. So, they adopted online learning in their programs. This was useful for them to continue academic activities immediately in online mode during the COVID crisis. It was not totally online mode before, but they were used to running virtual classes with the blended mode of learning. Previous crises helped them to prepare for COVID-19. They have continued to run programs in blended mode.
Also, one of the challenges during the crisis was maintaining the proximity between teacher and student. Blended teaching mode helped the departments to improve the proximity between teachers and students. On the continuity of online mode, Fatteman shared:

“We are still following the mode of blended learning. I believe that now we cannot ignore the online mode of teaching and learning. This will be a major part of our department in teaching. But the challenge is that many students find online mode monotonous and feel unable to experience their university life. So, now we have decided to take classes in blended mode.”

They also realized the importance of online learning. It saved the traveling time of professors and students. This allowed professors to engage more in research activities. The number of publications in journals has increased. Most importantly, students preferred the blended mode of learning. In this regard, teacher participant Govind explained:

“Our presence reaches global scenario. We could conduct seminars and webinars reaching participants from different countries. Because of this, we could attract international students. Research activities were increased as faculties were free and a lot of articles were published. These are assets for KUSOED. Also, in a survey of two batches that took online classes, 92% of students were satisfied with the online mode, which is positive and encouraging for us. This is interesting and, maybe, shows the importance of online classes to continue, and we are motivated by this guideline.”

They have not totally ignored the online teaching mode after COVID-19 gradually subsided. The importance of the online mode of teaching was highlighted when the construction of an academic building started recently. They have limited space. Online mode of teaching helps them to manage the space properly. Regarding this, Dambar shared:

“Right now construction is going on; so it could have been very difficult for us to manage space. Because of technology and online classes, we are able to continue with academic activities. There is an efficient use of limited resources.”
With all these experiences sharing, it shows that the School of Education has learned from the crisis and continues the online teaching mode with perpetual ICT resources. The experience and learning for crisis will make them prepare for future crises.

IV. Challenges

The above discussion shows that KUSOED was able to mitigate the COVID-19 impact with proper implementation of strategies in the pre-crisis, crisis response, and post-crisis stages. The organizational culture of Kathmandu University on preparedness and existing ICT applications was crucial for mitigating the crisis in the pre-crisis stage. The School of Education was prepared with the modality of online learning and blended learning as part of their teaching culture. They developed online learning as their teaching culture for two main reasons: a vision of becoming an international institution and learning from the past crises of the earthquake in 2015 and the Indian economic blockade in 2015. The study of Olofsson et al. (2022) has also suggested the importance of organizational culture in preparedness for crisis management in Swedish public health agencies in the pre-crisis stage. They claimed that with the culture of production, the agency could create precedents and lead the agency to pandemic management.

Additionally, the School of Education developed all the required infrastructures for online learning with effective ICT resources. It made them implement online classes in a short time. The study by Lynch et al. (2020) also suggested the importance of available ICT for social work educators during the pre-crisis of COVID-19. They claimed that social work educators could manage to deliver online sessions immediately by adopting ICT.

Similarly, immediate contingency plans, communication, and teamwork were vital in continuing academic activities during crisis response. Communication was essential for the efficient delivery of the online class and information flow of COVID-19. School of Education could manage to communicate effectively with different stakeholders regarding COVID-19 information and online classes. The study by Reddy and Gupta (2020) also suggested effective communication was vital for the population during COVID-19. They claimed that a lack of effective communication might hinder the mitigating strategy of the pandemic. Besides that, the contingency plan and prompt response were necessary during the crisis as many challenges in health, the technical part, and online classes were evolving.
Ehrenberg et al. (2021) also suggested that responding quickly and diligently was necessary to mitigate the economic impact of COVID-19 in low- and middle-income countries. The School of Education could mitigate the impact of COVID-19 because of their prompt response and contingency plans. Finally, teamwork was needed to handle the crisis and continue academic activities. Teamwork was vital for continuing academic activities during COVID-19. A study by WU et al. (2021) signifies the importance of teamwork during a crisis. They also claimed that job performance was positively related to teamwork. For the School of Education, teamwork was also an important factor that drove them through the COVID-19 pandemic.

Furthermore, after the easing of COVID-19, the School of Education is continuously using online teaching. They learned from the past crisis, making it easier for them to continue their academic activities during COVID-19. Now, with the experience of COVID-19, they have developed the confidence to handle all kinds of challenges in future crises. Karjalainen et al. (2022) also agree that learning from the crisis will help us to prepare and respond to uncertain future crises. School of Education has not ignored the importance of online teaching but has developed it as their culture. They believe that they are able to sustain any kind of crisis in the future. Thus, as explained by the three-stage model of crisis management, the School of Education implemented its strategies in all three stages of crisis in an effective manner. Because of this, they were able to continue their academic activities during COVID-19.

V. Conclusion and Future Pathways

COVID-19 was a global health crisis that posed a detrimental impact throughout the globe. One of the sectors severely impacted by COVID-19 was education. With the COVID-19 pandemic, most universities faced challenges of continuing their operation and creating an environment of health, safety, and well-being for the staff, teachers, and students. However, as every challenge gives rise to opportunity, good planning, cooperation, and communication could help universities in preparedness during the COVID-19 crisis.

As explained through the three-stage crisis management model, the School of Education also managed to implement strategies in pre-crisis, crisis response, and post-crisis stages. These helped them mitigate the impact of COVID-19. The organizational culture of the School of Education, regarding preparedness and existing ICT applications, was crucial for mitigating the crisis.
In conclusion, immediate contingency plans, communication, and teamwork play a vital role in continuing academic activities during a crisis. Importantly, learning from the crisis and continuity of using Information Communication Technology smoothen academic activities in the post-crisis stage. Many challenges may rise during crisis but learning from those challenges can help Universities to prepare for the future. With the experience of COVID-19, they have developed the confidence of mitigating future crises with their continuous learning.

The findings of this research can be helpful to the leaders of various educational institutions in their preparation to mitigate crises like COVID-19 in the future. It makes them realize the importance of learning from crises to prepare for future crises. It can also help educational leaders make essential and prompt decisions for the continuity of academic activities in future crises. The findings suggest that contingency management along with the development and integration of online infrastructures like the internet, server, learning management system, and data management system is important for crisis management.

References


CASE STUDY 5

Assessing Kabul Public University Student’s Knowledge, Attitudes, and Practices towards Disaster Management

Mokbul Morshed Ahmad
Hayatullah Mushwani
The disaster risk has increased dramatically all over the globe and affecting social well-being, the capacity for adaptation, and community resilience (Kenny, 2012 #323). Afghanistan is a landlocked country located in south Asia, it is highly prone to natural hazards like landslides, earthquakes, floods, avalanches, storms, and drought (ANDMA, 2017 #321). In addition, based on the Afghanistan Hazard Profile flood, drought, landslide, avalanches, and earthquake is the potential disasters in Afghanistan shown in Figure 1.

Afghanistan is ranked 6th in hydrometeorological hazards according to the Climate Risk Index 2019. Due to these hazards, millions of Afghans are affected each year see Table 3 {Gan, 2021 #320}. The Afghanistan educational centers are also vulnerable to terrorist attacks and hazards. In the past 20 years, many schools and universities witnessed terrorist attacks causing casualties. On the other hand, students are not familiar with the disaster response and management concept, therefore, when there are small-scale disasters or terrorist attacks occur many students are affected in various ways. These attacks students face lead to psychological issues. As a result, it has bad effects on their learning.
Based on the research to increase the student’s knowledge, attitudes, and practices towards disasters and disaster Management, there is a need to introduce students to some basics of disasters, the dangers they bring, practical experience, and evacuation routes as ways out of such situation. This is the only way to reduce the risk of disasters and build knowledge. There is no Disaster Management-related course to improve the students and staff knowledge gap {Huo, 2021 #318}. Therefore, a Case study titled; Assessing Kabul Public Universities students’ knowledge attitudes and practices towards disaster Management helps students to improve their knowledge, attitudes, and practices towards Disaster Management.

1.2 Disasters at Kabul Public Universities

Kabul Public Universities (Kabul Medical University, Polytechnic University, Kabul University, and Kabul Education University) has been vulnerable to disasters, especially Man-made disasters such as terrorist attack. Additionally, a terrorist attack and bombing at the Kabul Educational University took place in 2018 and resulted in a number of casualties. In a subsequent terrorist attack on Kabul University's faculty of law in 2020, more than 30 students and staff died and 50 others were injured shown in Table 4. Building resilience in university leads students to cope with catastrophes to reduce the risk of disasters at educational institutions. On the other hand, since COVID-19, spread quickly in Afghanistan and affected the economy in different ways, during the pandemic 47% of universities reported 2000- 5000$ in damages per institution, each month. In this high-raised period of COVID-19, only 13% of students were able to join online classes, and 98% of students were not able to pay their fees shown in figure 2 {Nemat, 2021 #324}.

<table>
<thead>
<tr>
<th>No.</th>
<th>Various</th>
<th>Item</th>
<th>I-CVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Attitude</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Practice</td>
<td>13</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 1: Validity I-CVI table shows the knowledge, attitude, and practice Individual content validity index(I-CVI)
Figure 1: Potential Disaster in Afghanistan (Quraishi, 2018 #326). Shown the list of potential hazards (Earthquake, Drought, Flood, and Landslide) in Afghanistan.

<table>
<thead>
<tr>
<th>No.</th>
<th>Various</th>
<th>Item</th>
<th>Alpha Cronbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge</td>
<td>15</td>
<td>0.764</td>
</tr>
<tr>
<td>2</td>
<td>Attitude</td>
<td>15</td>
<td>0.871</td>
</tr>
<tr>
<td>3</td>
<td>Practice</td>
<td>10</td>
<td>0.718</td>
</tr>
</tbody>
</table>

Table 2: Reliability test table shows the knowledge, attitude, and practices of the reliability test

<table>
<thead>
<tr>
<th>No</th>
<th>Types of Disaster</th>
<th>Impacts of Disasters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Earthquake</td>
<td>560 Facilities on average per year</td>
</tr>
<tr>
<td>2</td>
<td>Flood</td>
<td>Over 800,000 people exposed</td>
</tr>
<tr>
<td>3</td>
<td>Drought</td>
<td>US$ 280 Million in agriculture damages per year</td>
</tr>
<tr>
<td>4</td>
<td>Landslide</td>
<td>13,000 Private buildings exposed</td>
</tr>
<tr>
<td>5</td>
<td>Avalanches</td>
<td>10,000 Kilometers of roads exposed</td>
</tr>
</tbody>
</table>

Table 3: Disasters Impacts in Afghanistan table shows Afghanistan potential disasters and its effects on various sectors including agriculture, roads, building, and other facilities (ANDMA, 2017 #321)
Table 4: Terrorist attacks on Kabul Public Universities table shows terrorist attack casualties in 2018 at Kabul Educational University which led to 22 deaths and 6 injured. In 2020 similar attack took place at Kabul University mainly on law and public relations faculty causing 32 deaths and 50 injured. In addition, based on the global terrorism databases from 1970 to 2020 in Afghanistan, 434 attacks have occurred in educational institutions.

II. Aims and Objectives

The general objective of this research is to assess Kabul Public Universities students’ knowledge, attitude, and Practices toward Disaster Management. The specific objectives of the research are as follows;
2.1 Specific objectives

1. To analyze Kabul Public Universities Students’ Knowledge regarding disasters Management
2. To evaluate Kabul Public Universities student’s attitudes toward disasters Management
3. To assess Kabul Public Universities Student practices toward disasters Management

2.2 Study significance

One of the new and important fields in Afghanistan's higher education system is disaster management. As a result, this case study helps students improve their ability for disaster management and quick response to catastrophic situations. The significance of the study is listed as follows;

Firstly, this case study is a perfect illustration of a research-based study that can assist students and staff in better understanding disaster management. Students' and staff's attitudes and behavior are going to be transformed by enough information and awareness, and as a result, they will continue to participate in disaster management practices. Secondly, this study identified the major disaster risks that Kabul Public Universities face, and it made suitable recommendations to the departments and responsible organizations for disaster management to take those practices into consideration in order to ensure resilience and safety at educational institutions. In addition, the University's leadership will pay attention to including a Disaster Management course in their curriculum, which greatly enhances the student's knowledge, awareness, and practices in terms of disaster management. Students can share their skills and knowledge with the community, which strengthens their own capacity.

2.3 Study area

Kabul is the capital of Afghanistan, and it is located in the eastern part of the country between 34.543896° N and 69.160652° E. There are 22 districts in the city. The climate in Kabul province is generally semi-arid and heavily continental, with annual precipitation of 300 mm, {Huo, 2021 #318}. The total population of Kabul city is estimated in 2018-2019 4.8Millions, out of 4.8 million people 4.1 million lived in urban areas and almost 72,0000 in rural areas {EASO, 2020 #325}. This study titled; Assessing Kabul Public Universities Students’ Knowledge, Attitude, and Practices toward Disaster Management is carried out at Kabul Public Universities shown in Figure 3
2.4 Research methods

The study is conducted based on quantitative research methods. The data is collected by probability sampling technique using stratification from all 42 faculties of Kabul Public Universities. The sample size is calculated by the Krejcie and Morgan Formula; the total Population is 41852 which is comprised of Kabul University 23452, Kabul Polytechnic University 5000, Kabul Education University 8000, and Kabul Medial University 5400 shown in Table 5. The total number of respondents will be 655 with a 1% error and a 99% confidence interval. This study data is analyzed based on descriptive methods using SPSS-22.

2.5 Questionnaire design

The questionnaire was developed around three variables focusing on students’ knowledge, attitude, and practice toward disaster management. In the KNOWLEDGE section, the respondents were asked to answer 15 items with a Yes and NO response options related to disasters and Disaster Management awareness, understanding, and skills. 15 items were included in the ATTITUDE section based on a 5-point Likert Scale, focusing on students’ perceptions, beliefs, and an idea regarding disaster management. In the PRACTICE section, respondents were asked to answer 10 items related to their practice and participation in disaster Management activities based on 4-Ponit Likert Scales. In addition, for further validations, the internal consistency and questionnaire content validity is done.

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of University</th>
<th>Populations</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kabul University (KU)</td>
<td>23452</td>
<td>367</td>
</tr>
<tr>
<td>2</td>
<td>Kabul Medical University (KMU)</td>
<td>5400</td>
<td>85</td>
</tr>
<tr>
<td>3</td>
<td>Kabul Educational University(KEU)</td>
<td>8000</td>
<td>125</td>
</tr>
<tr>
<td>4</td>
<td>Kabul Polytechnic University(KPU)</td>
<td>5000</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>41852</td>
<td>655</td>
</tr>
</tbody>
</table>

Table 5: Kabul public universities sample size table shows Kabul public universities population and sample size (Kabul Public University student afire, 2021)
III. Lesson Learned

The most key lesson learned from the case study; Assessing Kabul Public University student’s knowledge, attitude, and practices are listed as follows;

- Due to the numerous disasters, particularly terrorist attacks, that Kabul Public Universities have experienced, it is necessary to enhance student and staff capacity in terms of disaster risk mitigation and Management Practices.
- The major point of this case study is to assess Kabul Public Universities students’ knowledge, attitude, and practice toward disaster management.
- According to the study, Kabul's public universities students’ knowledge in terms of disaster management is inadequate. In addition, most of them have not participated in disaster Management programs therefore, it is essential to persuade students to voluntarily participate in disaster management programs.
- The Kabul Public University faculties don’t have disaster management courses in their curriculums to improve students’ knowledge and build their skills and Capacity in disaster management programs at universities, therefore, the Ministry of higher education and universities are encouraged to involve disaster management courses in their curriculums.

Figure 3: Shows Kabul Public Universities (Kabul University, Kabul Medical University, Polytechnic University, and Kabul Educational University)
There are no applied disaster Management programs at universities, Disaster management Departments and the Ministry of higher education are required to pay attention and developed disaster management centres at the university level.

IV. Challenges

The most significant challenge of the study is; the complex political situation in the country every few years later the political structure of the country is changed and a new party comes up with a new concept, therefore, they are not able to both financially and technically support the disasters Management practices at educational centers. In addition, the Universities are not independent to support disaster education and practice at the university level. It means they are financially not able to apply for disaster management programs at universities. the Kabul Universities don’t even have health care programs and ambulance which is very important in emergency situations. In addition, after the political change in the country on 15 August 2021 many high-level experts and professors left the country and migrated to European countries which increased the shortage of expertise issues in the educational sector as well.

On the flip side, due to a low level of knowledge in terms of disaster management, the students are not able to participate in disaster management programs. Disaster Management activities need to consider gender equality as well which is a key challenge in the current situation in the country under the new government leadership. Furthermore, the student’s financial status is not good to voluntarily participate in disaster management activities. Even though it’s hard to conduct research based on gender equality, the co-education is ended in Afghanistan Therefore, researchers need to hire female researchers to conduct surveys in Universities. However, After many efforts received permission to survey female students but still in the current situation in Afghanistan it’s not easy to conduct surveys without permission.

4.1 Result and discussion

Respondents’ Characteristics Out of the 658 respondents who participated in this study, 368 were males and 290 were females from the age group 20 to 27 years old. In this study 56.8% of respondents were from Kabul University, 13.1 were from Medical University,19% were from Kabul Educational University, and 11.1% were from Polytechnic University. The respondent’s overall characteristics are summarized in Table 6.
4.1.1 Students’ knowledge, attitude, and practice of the disasters management

The findings of this study show that the respondents in general have good knowledge of disaster management. In addition, most of the student’s knowledge regarding disaster management is more than 50% (see Table 7). They also show moderate attitudes because based on the percentage the students’ attitudes levels in terms of disaster Management are less than 50% percent. In addition, the knowledge level is not bad but still, there is not a good change in students’ behaviors and attitudes (see Table 7). On the other hand, Kabul Public Universities’ student Practices are low because most student participation is less than 50% percent Only 20 to 25% of students participate always and sometimes which is low-level of Participation in Disaster Management.

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Male</td>
<td>368</td>
<td>55.9</td>
</tr>
<tr>
<td></td>
<td>b. Female</td>
<td>290</td>
<td>44.1</td>
</tr>
<tr>
<td>2</td>
<td>Marital Statue</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Single</td>
<td>588</td>
<td>89.4</td>
</tr>
<tr>
<td></td>
<td>b. Married</td>
<td>70</td>
<td>10.6</td>
</tr>
<tr>
<td>3</td>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. below 20</td>
<td>76</td>
<td>11.6</td>
</tr>
<tr>
<td></td>
<td>b. 20</td>
<td>118</td>
<td>17.9</td>
</tr>
<tr>
<td></td>
<td>c. 21</td>
<td>155</td>
<td>23.6</td>
</tr>
<tr>
<td></td>
<td>d. 22</td>
<td>150</td>
<td>22.8</td>
</tr>
<tr>
<td></td>
<td>e. 23</td>
<td>87</td>
<td>13.2</td>
</tr>
<tr>
<td></td>
<td>f. 24</td>
<td>36</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>g. 25</td>
<td>26</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>h. 26</td>
<td>5</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>i. 27 above</td>
<td>5</td>
<td>0.8</td>
</tr>
<tr>
<td>3</td>
<td>Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. First -class</td>
<td>160</td>
<td>24.3</td>
</tr>
<tr>
<td></td>
<td>b. Second class</td>
<td>172</td>
<td>26.1</td>
</tr>
<tr>
<td></td>
<td>c. Third Class</td>
<td>143</td>
<td>21.7</td>
</tr>
<tr>
<td></td>
<td>d. Fourth Class</td>
<td>183</td>
<td>27.8</td>
</tr>
<tr>
<td>4</td>
<td>Name of University</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Kabul University</td>
<td>374</td>
<td>56.8</td>
</tr>
<tr>
<td></td>
<td>b. Kabul Medical University</td>
<td>86</td>
<td>13.1</td>
</tr>
<tr>
<td></td>
<td>c. Kabul Education University</td>
<td>125</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>d. Kabul Polytechnic University</td>
<td>73</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Table 6: The table shows the respondent’s characteristics
<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Yes %</th>
<th>No %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Were you aware that floods, earthquakes, fires, terrorist attacks, and car accidents are considerable disasters?</td>
<td>95.9</td>
<td>4.1</td>
</tr>
<tr>
<td>2</td>
<td>Have you ever experienced any disaster; i.e. Flood, earthquake, fire, terrorist attack, or car accident?</td>
<td>75.8</td>
<td>24.2</td>
</tr>
<tr>
<td>3</td>
<td>Were you aware of the causes of a disaster; acts of God, poverty, Social disobedience, and Mechanical failures?</td>
<td>84.2</td>
<td>15.7</td>
</tr>
<tr>
<td>4</td>
<td>Have you previously been aware of what involves in Disaster Management; plans, budgets, organizations, and Academia?</td>
<td>38.9</td>
<td>61.1</td>
</tr>
<tr>
<td>5</td>
<td>Have you previously been aware of about Disaster Management Cycle; Preparedness, Mitigation, Response, and Recovery?</td>
<td>36.9</td>
<td>63.1</td>
</tr>
<tr>
<td>6</td>
<td>Were you aware that training in emergency response and disaster Preparedness is effective for Disaster Management?</td>
<td>50.2</td>
<td>49.7</td>
</tr>
<tr>
<td>7</td>
<td>Were you aware of the potential consequences of disasters; i.e. social disorders, Physical destruction, economic losses, and environmental damages?</td>
<td>76.7</td>
<td>23.3</td>
</tr>
<tr>
<td>8</td>
<td>Were you aware, of what a disaster Management plan is; i.e. Emergency Response, control, hierarchy, and coordination?</td>
<td>41.3</td>
<td>58.7</td>
</tr>
<tr>
<td>9</td>
<td>Have you previously learned about an early warning system for disasters?</td>
<td>54.6</td>
<td>45.4</td>
</tr>
<tr>
<td>10</td>
<td>Have you ever previously learned, what an effective disaster early warning system approach is; i.e. Message to cellphone, Telavi Media Approach, loudspeakers, or social media?</td>
<td>73.9</td>
<td>26.1</td>
</tr>
<tr>
<td>11</td>
<td>Have you previously ever learned about disaster mitigation measures; protection walls, building codes, fire extinguishers, traffic signs, and security measures?</td>
<td>68.2</td>
<td>31.8</td>
</tr>
<tr>
<td>12</td>
<td>Were you aware, your university has a disaster management department?</td>
<td>44.5</td>
<td>55.5</td>
</tr>
<tr>
<td>13</td>
<td>Were you aware that your University has an emergency response system?</td>
<td>37.8</td>
<td>62.2</td>
</tr>
<tr>
<td>14</td>
<td>Have you previously ever learned about emergency evacuation signs?</td>
<td>50.9</td>
<td>49.1</td>
</tr>
<tr>
<td>15</td>
<td>Were you aware that psychological treatment plays an important role in disaster recovery?</td>
<td>73.6</td>
<td>26.3</td>
</tr>
</tbody>
</table>

**Table 7: Knowledge of the Disasters Management**
<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Strongly Disagree %</th>
<th>Disagree %</th>
<th>Neutral %</th>
<th>Agree %</th>
<th>Strongly Agree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do you think disasters are major issues?</td>
<td>5.0</td>
<td>5.3</td>
<td>9.7</td>
<td>46.5</td>
<td>33.4</td>
</tr>
<tr>
<td>2</td>
<td>Do you think disaster; i.e. floods, earthquakes, fires, terrorist attacks, and a car accident is frequently occurred?</td>
<td>2.7</td>
<td>13.5</td>
<td>13.7</td>
<td>45.0</td>
<td>25.1</td>
</tr>
<tr>
<td>3</td>
<td>Do you think the acts of God, poverty, social disobedience, and mechanical failures are major causes of disasters?</td>
<td>5.0</td>
<td>10.9</td>
<td>19.5</td>
<td>39.8</td>
<td>24.8</td>
</tr>
<tr>
<td>4</td>
<td>Do you think financial resources play a key role in Disaster management?</td>
<td>2.0</td>
<td>5.3</td>
<td>12.3</td>
<td>42.4</td>
<td>38.0</td>
</tr>
<tr>
<td>5</td>
<td>Do you believe social disorders, physical destruction, economic losses, and environmental damages are the potential consequences of a disaster?</td>
<td>4.7</td>
<td>5.9</td>
<td>15.4</td>
<td>43.5</td>
<td>30.4</td>
</tr>
<tr>
<td>6</td>
<td>Do you think training in emergency response and disaster preparedness is mandatory for disaster management?</td>
<td>4.0</td>
<td>3.6</td>
<td>13.7</td>
<td>45.1</td>
<td>33.6</td>
</tr>
<tr>
<td>7</td>
<td>Do you think emergency response, control, hierarchy, and coordination are the major components of a disaster management plan?</td>
<td>4.3</td>
<td>7.9</td>
<td>20.5</td>
<td>45.0</td>
<td>22.3</td>
</tr>
<tr>
<td>8</td>
<td>Do you believe messages to cellphones, television, media approach, loudspeakers, or social media are effective tools for an early warning system approach?</td>
<td>3.0</td>
<td>7.1</td>
<td>13.8</td>
<td>38.8</td>
<td>37.2</td>
</tr>
<tr>
<td>9</td>
<td>Do you think protection walls, building codes, fire distinguishers, terrific signs, and security measures can mitigate disaster impacts?</td>
<td>4.3</td>
<td>5.9</td>
<td>11.7</td>
<td>42.1</td>
<td>36.0</td>
</tr>
<tr>
<td>10</td>
<td>Do you believe every university should have a disaster management department?</td>
<td>4.7</td>
<td>7.0</td>
<td>14.7</td>
<td>34.7</td>
<td>38.9</td>
</tr>
<tr>
<td>11</td>
<td>Do you think there is a need to involve the disaster management course in your faculty curriculum?</td>
<td>6.1</td>
<td>8.4</td>
<td>18.4</td>
<td>35.1</td>
<td>32.1</td>
</tr>
<tr>
<td>12</td>
<td>Do you think every university should utilize an emergency response system?</td>
<td>4.1</td>
<td>6.7</td>
<td>14.1</td>
<td>40.7</td>
<td>34.4</td>
</tr>
<tr>
<td>13</td>
<td>Do you believe the existence of emergency evacuation signs are important?</td>
<td>3.2</td>
<td>4.6</td>
<td>13.5</td>
<td>43.8</td>
<td>35.0</td>
</tr>
<tr>
<td>14</td>
<td>Do you think recovering from a disaster psychological treatment is a fundamental human need?</td>
<td>3.5</td>
<td>6.5</td>
<td>12.6</td>
<td>38.8</td>
<td>38.6</td>
</tr>
<tr>
<td>15</td>
<td>Do you believe the volunteer group is it an important part of search and rescue operations?</td>
<td>4.6</td>
<td>26.3</td>
<td>15.0</td>
<td>35.6</td>
<td>38.3</td>
</tr>
</tbody>
</table>

**Table 8: Attitudes of Students towards Disasters Management**
4.1.2 Relationship between students’ knowledge, attitude, and practice of the disaster management

Based on the findings in Table 4, it can be concluded that there was a weak relationship between knowledge and attitude, \( r = .017, n = 668, p = <.001 \). The test indicates that there was a negative correlation between students’ knowledge and practice \( r = -.190 \). It can be concluded that the relationship between attitude and practice is low \( r = .018, p = <.001 \).
V. Conclusion

This study investigated Kabul Public Universities students’ knowledge, attitude, and practice toward disaster Management. Generally, the country (Afghanistan) is exposed to various disasters like landslides, drought, avalanches, earthquakes, and floods. On the other hand, most educational centers Schools, and Universities are vulnerable to Man-made hazards such as terrorist attacks. Generally, the Kabul Public Universities students’ knowledge is moderate and students’ participation in disaster Management programs is very low level. Based on the findings of the study only 20 to 25% of students participate always and sometimes which is a low level of Participation in Disaster Management. In addition, Kabul Public Universities don’t have disaster Management applied programs at Universities.

Therefore, according to this study’s findings Ministry of Higher Education, Kabul Public Universities leadership, and Disasters Management, responsible departments are suggested to build disaster management centers at the university level.

Table 10: Correlations - Correlation is significant at the 0.01 level (2-tailed).
References


CONCLUSION

Final Case Study Contextual Discussion and Way Forward on Higher Education Resilience Intervention

Indrajit Pal
Jacquleen Joseph
Bateswar Das
Kullanan Sukwanchai
Conclusion

Disaster risk management (DRM) within higher education institutions (HEIs) provides a crucial framework for studying, researching, and formulating crisis management strategies to mitigate uncertainties within the broader education sector. The global impact of the COVID-19 pandemic, particularly on education, has been profound. Universities have encountered significant obstacles in sustaining operations while safeguarding the health, safety, and well-being of their staff, educators, and students. Yet, amidst these challenges, opportunities arose for universities to implement effective disaster management plans, foster collaboration, enhance communication, and thereby reduce risks while countering the direct and indirect threats posed by the COVID-19 crisis. Case studies underscore diverse measures that can be adopted to address such crises within the education sector. Fundamental threats include societal divisions rooted in caste, class, and economic disparities, along with entrenched conflicts like gender inequality, governance inefficiencies, or political instability. These factors contribute to the heightened vulnerability of communities or nations to losses caused by disasters. The principles of sustainable development emphasize the significance of inclusive decision-making and policy implementation by communities, as well as the participation of both public and private stakeholders in DRM. The Sendai Framework for Disaster Risk Reduction (SFDRR) further underscores the necessity for comprehensive social representation across all sectors to ensure the efficacy of disaster risk reduction strategies.

The COVID-19 pandemic resulted in unprecedented losses across various facets of society, particularly impacting social development, health, and education. Global assessments of its consequences indicate a substantial decline in learning outcomes from the pre-COVID to post-COVID periods (The State of Global Education Crisis: A Path to Recovery, 2021 [1]). Challenges in effectively implementing online learning systems, a digitally reliant environment susceptible to misuse, and economic inequalities have contributed to elevated dropout rates and the exploitation of young individuals within digital spaces. The inadequacy of digital education underscores that mere technological alternatives are insufficient without due consideration for social and cultural dynamics.

Disparities in risk management between developed nations and underdeveloped countries significantly influence the global comprehension of disaster risk reduction. Achieving comprehensive global disaster risk reduction demands addressing the disparity in disaster management capabilities between urban and regional contexts, particularly concerning preparedness and capacity-building in less affluent nations. Developed countries and privileged urban educational institutions swiftly transitioned to online learning, providing essential funding and data packages to students, instituting IT support teams, enacting contingency plans, and ensuring healthcare provisions. However, regional educational institutions lacking these resources have been disproportionately disadvantaged. Many such institutions have shuttered, witnessed a rapid decline in student enrollments, and cast uncertainty over the prospects of the associated younger generation. Addressing these issues warrants increased attention to improve the present situation.

This study seeks a comprehensive grasp of diverse developments within global higher education by examining the trajectories of pre- and post-COVID pandemic through case studies and proposes recommendations for future advancement. The insights gleaned from these case studies hold paramount importance in shaping forthcoming progress within global higher education.

**Historical Context of HEI in Nepal, Afghanistan, India and Australia and Implications for Disaster Resilience Post COVID**

**NEPAL:** Studying the trajectories of higher education in countries like Nepal, with their unique challenges, is crucial for understanding the context. In 1956, the Nepal National Education Planning Commission (NNEPC) emphasized the nationalization and integration of the education sector as a unified, public-government-supported system, ensuring education as a right for all (Nepal National Education Planning Commission report, Kathmandu: Govt. of Nepal, 1956). However, the higher education system in Nepal has historically been highly politicized and fragmented. During the late 19th and early 20th centuries, under the monarchy system, education in the country was heavily influenced by British colonial India, primarily serving the privileged class and bureaucrats. There was no provision for a public education system during this period, often referred to as a "dark era" in the country's education history.
Reforms were initiated to democratize and make education accessible to the public, with the implementation of a nationalized policy aimed at evaluating progress and monitoring changes in a unified manner (ibid). However, over time, challenges have emerged in the nationalized policy framework. In the neoliberal era, the education sector requires global competitiveness and recognition, leading to a dilemma regarding whether higher education should be considered a "merit good" or a "public good."

In response, the National Education Commission (NEC) introduced a decentralized policy in the 1990s, coinciding with changes in the political party system. The Ministry of Education became responsible for overseeing the education sector, while the University Grants Commission (UGC) focused on infrastructure development, and educational standards, and sought foreign policy influence through organizations like UNICEF and the World Bank (Pradhan, 2018).

The Government of Nepal launched the Higher Education Project for the first time from 1992 to 2002, followed by subsequent projects in 2007-2014 and 2015-2020 to further reform the system. The establishment of the UGC in 1993 and the rapid growth of higher education institutions in the country played a significant role in restoring the multiparty parliamentary system and aligning higher education with global standards. Presently, there are 15 autonomous degree-awarding higher education institutions in Nepal, including 11 universities and 4 medical academies, established by the government through independent acts approved by the parliament. Approximately 371,000 students are enrolled in 1,408 university campuses (colleges). The majority of these campuses (1,309) are independently established by private entities (777) or public communities (532), running academic programs through affiliation with universities (Bajracharya, 2021).

The decentralized policy in Nepal has facilitated the rapid growth of higher education by introducing foreign course structures, global standard technical and medical education, and improved facilities such as laboratories and libraries. However, the country has faced limitations and a decline in research activities and public accessibility to higher education due to political instabilities, poverty, inflation, and the transition from a unitary system to a federal system.
In 2015, Nepal adopted a new constitution and was identified as a low-income country by the World Bank, with a per capita income of $790 (Symposium on “Learning during and Post-COVID 19 in Nepal”, The World Bank, 2021).

Tribhuvan University is currently the primary higher education institution in Nepal, enrolling more than 78% of the country's students. However, it offers only a few high-standard programs, leaving a significant gap in the development of higher education with global standard facilities. As a result, the private sector has played a significant role in influencing the education system, leading to increased inequities (Ra & Joshi, 2020). The politicization of teaching and non-teaching staff, non-transparent recruitment processes, and a lack of coordination between various departments and stakeholders have further hindered the progress of higher education in the country.

To address these challenges, the government has received assistance from organizations such as UNICEF and the World Bank to fulfill its commitments to the Global Education Summit (World Bank, 2021). The symposium also highlighted the pre-existing challenges faced by the country, including marginalization and deprivation of a large section of the population, an increased digital divide, and a slowdown in human and social development. These challenges, combined with the COVID-19 pandemic, have further exacerbated the devastation and impact on research facilities and the accessibility of globally recognized higher education across Nepal.

AFGHANISTAN: The history of higher education in Afghanistan has been marred by political and governmental instabilities, leading to significant challenges and setbacks. Since the establishment of "modern Afghanistan" by Ahmad Shah Abdali in 1747, education was not prioritized, and numerous obstacles hindered the growth of human development indicators. Prolonged periods of in-fighting and resistance during foreign occupations caused the country's education system to regress to a pre-modern era.

However, there were some favorable developments for higher education after the reign of King Amanulla Khan (post-1929). King Nadir Shah (1929-33) and his son Jahir Shah (1932) gradually recognized the importance of higher education for national development and established Higher Educational Institutions (HEI). Nevertheless, the lack of resources and basic infrastructure posed challenges to further establishment and growth.
A few Turkish and Indian families produced most of the highly educated individuals in the country. During the reign of Amanulla Khan and later due to foreign occupations, many students went abroad to study in countries such as Germany, France, Russia, India, Turkey, and others.

The first higher educational institute was established in 1932 as the faculty of physical sciences in Kabul, led by Dr. Faqih Kamil Baig. It later expanded to become Kabul University in 1946. The second institution, Nangarhar University, was established in Jalalabad in 1963. The Polytechnical University of Kabul, established in 1969 with the assistance of the former Soviet Union, became the third higher educational institute in the country. Balkh University was founded in 1987. Some institutions, like the University of Dawat and Jihad and The Islamic University, were later relocated from Peshawar to Afghanistan. However, some of these institutions merged with other premier institutes or ceased operations during the Soviet regime (Abdulbaqi, 2009).

In 1977, the Ministry of Higher Education and Ideological Training was established as a separate entity responsible for regulating higher education in Afghanistan. Prior to that, higher education was overseen by the Ministry of Education. During the US-backed Karzai government, a few new higher educational institutions were established, but they struggled to function effectively under the crisis of the Taliban government, which imposed a highly religious environment. Between the first and second terms of the Taliban, 19 public universities were established, rejuvenating the higher education system in terms of governance and budget.

The ten-year development plan (2005-2015) was introduced by the government, envisioning comprehensive changes in higher education, including improvements in teaching competencies, laboratory facilities, digital systems, and infrastructure. However, the uncertain rise of Taliban power and frequent attacks on higher educational institutions caused a sharp decline in the number of female students, and many faculty members were killed, severely hampering the higher education system. Weak infrastructure posed a significant challenge, as the number of students seeking admission in public universities far exceeded their capacity.
Resource constraints, a highly centralized government system, and a lack of English language-based instruction in higher education have kept Afghanistan lagging behind other developing nations for a long time. Additionally, the higher education system in the country is not well-aligned with the modern labor market and lacks emphasis on research and innovation. The heavy reliance on foreign aid is crucial for the continuation of services in these war-torn institutions. While fundamental sciences have been promoted through the Kankor system of education during the US presence, there is a significant gap in social science education, which is vital for the nation's development.

The current Taliban government has already announced several restrictions on girls' education and foreign curriculum, which will further exacerbate the barriers in the long term. Despite the government's efforts to cooperate with friendly countries, such as India, to incorporate digital systems in education for post-COVID development, the socio-economic foundation of the country is largely weak and unable to adapt to these changes [2]. It is crucial for scholars, think tanks, educators, and academics in Afghanistan to carefully consider the current dynamics of the nation, the existing education system, and the status of higher education to develop a comprehensive education policy. The government must also create a favorable environment to support this policy. Addressing the issue of brain drain is also essential during the post-conflict development stage of the nation [3].

INDIA: The fundamentals of higher education in India share similarities with those of other developing nations in South Asia. With one of the world's largest populations, India boasts a vast tertiary education sector that is continuously expanding. The country is home to 1,043 universities, 42,343 colleges, and 11,779 standalone institutions, making it one of the largest higher education sectors globally (AISHE, 2019-20).

[2] The Taliban Government in Afghanistan extended cooperation with India to build a digital education system using the SWAYAM portal of India. Currently, they are in the process of developing infrastructure, equipped laboratories, curriculum of education with alignment to religious sentiment promoted by the Taliban. Home | وزارت تحمیلیه (mohe.gov.af)
[3] The Borgen Project highlights the issue of 'brain drain' in the developing nation and its impact. It is suggested that Afghanistan could follow the model of Pakistan and Sri Lanka in this aspect to introduce a tenure track for young scholars, aid for study abroad, and give back to the nation. Rebuilding of Higher Education in Afghanistan - The Borgen Project
The University Grants Commission (UGC), established by a parliamentary act in 1956, serves as the apex body for non-technical and non-medical higher education. Technical education is overseen by the All India Council of Technical Education (AICTE), while medical education is regulated by the Medical Council of India (MCI). The Ministry of Human Resource Development, now known as the Ministry of Education, publishes annual reports on education policies and progress in each academic session, summarizing recent developments (Department of Higher Education, Government of India, 2021).

The roots of the modern education system in India can be traced back to the British era. However, the country faces numerous challenges, including a diverse management system for educational institutions across different states. Ineffective evaluation systems, a lack of skilled professionals, and inadequate support for research in higher education contribute to its vulnerability. Only 0.64% of candidates contribute to the research sector, and approximately 25% of students enroll in higher education, including undergraduate and postgraduate programs (AISHE, 2019-20). While there has been a significant increase in enrollment since the 2011-12 report, the overall numbers remain relatively low.

The Indian higher education sector has also faced political influence and a significant decrease in budgetary allocations. The recent increase of around 13% in the higher education budget still falls short of reaching 3% of the country's GDP, a figure much lower than that of developed and progressive nations (Indian Government’s National Education Budget 2022 | British Council - Collaborate and Recruit Internationally, n.d.; Demand for Grants 2021-22 Analysis: Education).

Furthermore, the National Education Policy (NEP) of 2020 aims to universalize higher education in India, emphasizing incentives-based and vocational training. It introduces changes in pedagogy, focusing on research-oriented courses after college graduation. However, the education system is criticized for not sufficiently promoting research and instead prioritizing job readiness. The lack of industry-relevant learning outcomes has been a gap in the earlier education system. As government penetration has primarily focused on school education, a significant portion of higher education in India is privately led, resulting in an achievement gap and inequitable access (India’s Higher Education Landscape, 2022). Therefore, the long-term benefits of privatization and marketization of higher education in India are questioned.
The pandemic has further highlighted these concerns, as many higher educational institutions experienced a decline in enrollments, compromised educational quality, and a shift towards online learning management systems (LMS). India needs to make intensive efforts towards integrated and accessible higher education with a focus on research excellence, which could lead to global recognition. Currently, no Indian higher education institutions rank within the top 100 globally.

Despite the economic challenges faced by developing nations, India remains hopeful for growth, particularly with increased investment in higher education reflected in the recent budgets of 2022-23. These investments primarily focus on infrastructure rejuvenation, curriculum development, and the integration of technology in the post-COVID pandemic situation. The government aims to implement globally standardized higher education in alignment with the targets set by the National Education Policy (NEP) 2020, while also promoting the participation of foreign students in higher education institutions in India. However, it is worth noting that the budgetary increase and rejuvenation efforts primarily concentrate on technology, medicine, and fundamental research, with less emphasis on interdisciplinary and social science research [4].

The lessons learned from the COVID-19 pandemic should be reviewed to make necessary improvements in higher education and research investments across the country. India has made significant progress in digitizing the education sector, particularly in school education, with initiatives such as e-Gyankosh, Swayam, and various online learning platforms promoted by the government and private companies in the post-pandemic era. While this reflects the government's promotion of private partnerships, the potential risks associated with privatization should be carefully evaluated to avoid exacerbating the crisis situation observed in many developed nations [5].

The pandemic has had a profound impact on school education, student well-being, and higher education in India, with inadequate mitigation strategies in place for Higher Education Institutions (HEIs). Therefore, it is imperative for the country to overhaul the overall structure of higher education. In this regard, India has signed Memorandums of Understanding (MoUs) with the World Bank, securing $60 million in investments [6].

[4] Available here- Budget 2023: Increased investment in higher education sought to enable new infra, and augment existing facilities (firstpost.com)
However, it is essential to recognize that focusing solely on school education is insufficient for national development. Similar evaluation, monitoring, and budgetary capacities should be developed in the higher education research sector across the country.

India encourages partnerships and collaborations with international universities, educational research centers, and welfare federations, as highlighted by the University Grants Commission (UGC) of India in the post-COVID pandemic situation. Additionally, there is a need for comprehensive studies on the capabilities of virtual learning and teaching methods. The challenges faced by students and teachers, particularly older individuals accustomed to traditional learning, in adapting to the virtual learning system should be investigated to better understand behavioral changes and associated losses. Similar instances from higher education institutes in Nepal emphasize the importance of conducting further research on this topic.

In summary, India's commitment to enhancing higher education is evident through increased investments and initiatives, although there is a need for a comprehensive revamp of the higher education structure, research funding, and virtual learning capabilities. Evaluating lessons from the pandemic and fostering international collaborations will be crucial in driving the development and resilience of India's higher education sector.

AUSTRALIA: In contrast, higher education in a developed country like Australia is characterized by structured systems and constructive measures aimed at increasing sustainability, quality, equity, and rationality. The Australian government has implemented a Commonwealth Grants system to provide funding for higher education institutions across the nation. Significant reforms, such as those outlined in the Dawkins white paper and the Kemp-Norton review, have brought about substantial changes in the country's higher education landscape. The West review further introduced flexibility in fee-assistance programs, encouraging the enrollment of overseas students (Higher Education Funding In Australia, Department of Education and Training, 2015).

As a result of these reforms, Australia has experienced remarkable progress in its higher education sector. The allocated budget for higher education increased from $3.2 billion in 1989 to $15.4 billion in 2014, enabling the country to accommodate over a million students, compared to just 100,000 in 1989.
This growth is a testament to the importance of effective reforms. Additionally, the attractive policies regarding higher education and financial support have attracted more than 350,000 students from around the world in 2014 alone (Australia Higher Education Resources, 2015) [7].

The globally recognized environment of Australian higher education can serve as a valuable learning model for developing countries in South Asia. In these countries, higher education institutions generate revenues that often surpass the total educational budget of a country like India. Therefore, studying and adopting the successful practices of the Australian higher education system can contribute to the advancement of higher education in South Asian developing countries.

The COVID-19 pandemic has had a severe impact on Australia's higher education sector, resulting in significant revenue losses. According to a parliamentary report, there was a 14% decline in enrollment from May 2019 to May 2020 as a direct consequence of the pandemic. Furthermore, Higher Education Institutions in the country are projected to experience a staggering loss of $19 billion between 2020 and 2023 due to the ongoing effects of the pandemic. This decline can be attributed to the fact that over 50% of overseas students in Australia come from China and India, and their enrollment has been heavily affected by the global health crisis (Australia House, 2020).

This highlights the reliance of Australian higher education institutions on students from developing nations, particularly those from South Asia and China, who are attracted to the advanced higher education opportunities available in the country. As a result, it is crucial for Australia to undertake significant reforms and revitalization efforts within the higher education sector. Deborah Terry, an administrative officer in the education sector, has emphasized the need for comprehensive changes to accommodate the large number of international students in the country [8].

In summary, the COVID-19 pandemic has exposed the vulnerabilities of Australia's higher education sector, leading to a decline in enrollment and substantial financial losses. Recognizing the importance of students from developing nations, Australia must undertake a large-scale revamping of its higher education sector to ensure its attractiveness and sustainability in the face of global challenges.

**Way Forward**

Drawing from the historical context of HEIs in each country, the study highlights the pre-existing root causes of the challenges faced by HEIs during the COVID-19 pandemic, such as poverty, deprivation, marginalization, stark digital, social, and gender divides/disparities in HEIs, government withdrawal, limited budgetary allocation, resource crunch, limited reach of public institutions, privatization exacerbating inequities, political instability, ongoing conflicts, governance crises, poor infrastructure including digital infrastructure, laboratory and research facilities, issues of teaching competencies, neglect of social science education, and inadequate emphasis on research and innovation, among others.

Consequently, the study emphasizes the importance of developing and implementing effective strategies to address such challenges in preparing for future crisis situations. By building robust contextual strategies that take into account the historical context of HEIs in each country, higher education institutions can better navigate and mitigate the adverse impacts, ensuring the continuity of progress and growth even in challenging circumstances.

The variations across the globe in comprehension, capability, and accessibility to disaster management and critical resources have further exacerbated the risks, particularly for underprivileged and marginalized communities. One of the case studies demonstrates the possibilities of democratizing disaster risk management (DRM) knowledge by making it available in vernacular languages. This approach will promote inclusivity, expand the reach of the DRM cycle, and enhance its efficiency in future crises. More efforts should be directed towards reducing social disparities and marginalization, thereby improving policy and governance in DRM and resilience building.

To achieve a globalized DRM approach that integrates indigenous practices and garners recognition on a global scale, increased partnerships and collaborative efforts are necessary. Such partnerships can facilitate mutual learning and contribute to the overall goal of effective DRM and resilience building.
References


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