Transition to Digital Era of Accreditation:
Scope and Challenges for Emerging Quality Assurance Agencies

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<h1 style="text-align:center">Executive Summary</h1>

The context, objective, and the method

This research has been carried out with the joint support from the International Network for Quality Assurance Agencies in Higher Education (INQAAHE) and the University Grants Commission (UGC), Nepal. COVID-19 had a serious impact on various sectors of development in Nepal as elsewhere and quality assurance and accreditation process in higher education was no exception. With COVID-19 pandemic, the agencies involved in this process were compelled to shift abruptly into digital mode. This research was designed with three objectives namely i) to explore the impacts of COVID-19 to the QAA Agencies and review the strengths and weaknesses of existing QAA system, ii) map the innovative ways initiated by the QAA agencies to carry out assessment for accreditation amidst the pandemic, and iii) identify the risk and problems associated with digital transformation (innovative approach) of assessment.

This research was carried out at the time that very little was known about the impact of COVID-19 pandemic in accreditation system. The research employed survey method of data collection and mixed method of analysis. Data are collected using online survey form (Google form). All the Full Members of the INQAAHE were requested for response of a standard survey questionnaire. However, despite repeated attempts and extended time, we had to limit this study with responses from 28 QAA agencies only.

The structure of accreditation agencies

Three types of governance structures were noted among the studied QAA agencies namely, i) fully private, ii) government entity, and iii) the society or network of accrediting agencies (umbrella organization of service provider). The agencies were established at different times, with most being established after 1990s. These agencies practice three types of accreditations: institutional, academic program, and faculty accreditation. The accreditation is compulsory in majority of the countries especially of the ICT advanced countries while a third agencies practice voluntary participation in the process. Prior to the COVID-19 related restrictions in movement, the accrediting agencies practiced assessment verification and review only through physical site visit (PSV) and it was compulsory. This notwithstanding the elaborate tasks being completed through desk-review.

The challenges and coping strategies adopted

The impacts of pandemic in the overall education and accreditation system have been enormous and there was an urgent need of transforming existing QAA system into alternative mode. The digital transformation in education system and accreditation system has provided some relief to limit the effects. To transit into digital mode of assessment, agencies amended statutory / regulatory provisions, organized induction programs, and also provided orientation and training to the stakeholders as required, using the virtual mode. Many agencies have enhanced their digital capacity, or adopted third-party application, used home-based / private network as well as allowed

employees to work from home. The HEIs under assessment were also offered various supports such as: financial support to develop online system, adjustment / extension in accreditation deadline, flexibility in deadline to submit reports and documents, as well as mode and time of assessment.

Innovations and Outcomes

Virtual meetings and digital data depository, followed by virtual site visit (VSV) and establishment or strengthening of online platform were the major innovations the agencies adopted. Establishing new online system was the last favored options to the agencies because of the requirement of large investment. As the VSV helped keeping stakeholders safe from the virus, participation of expanded stakeholders of HEIs being assessed, such as: alumni, practitioners, employers, and civic organizations in interactions and discussion, it also allowed the assessors to work comfortably, from office or from home environment. In addition, it reduced the cost as well as saved the travel time. As a result, the modified system got its acceptance unquestionably at the time of crisis. The agencies however, faced varieties of constraints while transiting to digital mode of assessment. The accessibility of information, reliability and bandwidth of the internet, the level of digital work-friendliness of the assessors, availability of technology (computer, laptop, mobile), and delay in establishing proper communication with the HEIs being assessed have been noted as some of the prominent challenges of alternative approach. As a result, the agencies felt the need of using blended or hybrid mode of assessment, i.e., use of both VSV and PSV.

State of digital divide

Irrespective of technologically advanced or weak country, all agencies reduced their physical activities at the time of COVID-19 pandemic. The reduction in physical activities without reducing the overall business was the case of technologically advanced countries while reduced performance was seen in the agencies of technologically weak countries. The compulsion for accreditation and paid assessment service in many developed countries compelled the agencies of ICT-advanced countries to transit to digital system early, while the voluntary participation and free-of-cost assessment in developing ones did not compel urgency to transform into virtual assessment in the ICT-weak countries. Having their own online platform helped the ICT-advanced agencies to successfully transit to the online assessment system. In contrast, many aspects were lacking in the agencies of ICT-weak countries so they took longer time to develop regulatory guidelines, and adopted third-party applications to continue their business. This also implied resource mobilization in a situation where state budget provision was reallocated for addressing the curative aspect of COVID-19 pandemic. The technological advancement has been seen as one of the prerequisites for uninterrupted assessment process at the time of crisis. However, there exist notable differences in the QAA agencies of the ICT advanced and weak countries and this indicated a digital divide.

Conclusion

COVID-19 pandemic induced transition to digital era in the QAA process was not easy in many countries as it had to be adopted abruptly. Though the nature of impact of COVID-19 in QAA

process was similar across the countries, the extent and the time gap to cope and adopt to the new digital mode differed between ICT advanced countries and the weak countries. Undoubtedly, many of the ICT advanced countries had strong ICT infrastructure and resources to early transit to full digital mode of assessment which was otherwise for ICT weak countries. The experience of many of the accrediting agencies indicated maintaining the quality in virtual assessment a challenging task either due to inadequate technology and resources or due to lack of quality culture in HEIs. The question of credibility was also raised initially for its adoption without adequate infrastructure and expertise and probably not to the online system as such. On the whole, despite limited data, this study has come up with many positive and impressive findings and we believe this will help readers to understand how QAA agencies transited to digital era during COVID-19 pandemic.

Acknowledgements

Acronyms and Abbreviations

AI	Artificial Intelligence
APQN	Asia Pacific Quality Network
APQR	Asia Pacific Quality Registrar
CHEA	Council for Higher Education Accreditation
COVID-19	Corona Virus Disease - 2019
EMIS	Educational Management Information System
ENQA	European Association for Quality Assurance in Higher Education
EQAAC, Nepal	Educational Quality Assurance and Accreditation Council, Nepal
EQAR	European Quality Assurance Register for Higher Education
HEC, Pakistan	Higher Education Council, Pakistan
HEIs	Higher Education Institution
ICT	Information and Communication Technology
IDA/WB	International Development Assistance / World Bank
IIQA	Institutional Information for Quality Assessment
ILO	International Labour Organization
IoT	Internet of Things
IQAS	Internal Quality Assurance System
IT	Information Technology
NAAC, India	National Assessment and Accreditation Council, India
NASPAA	Network of Schools of Public Policy, Affairs, and Administration
NQAAHE	International Network in Quality Assurance and Accreditation in Higher Education
ODL	Online and Digital Learning
OSV	Online Site Visits
PEQAB	Postsecondary Education Quality Assessment Board
PRT	Peer Review Team
PSV	Physical Site Visit
QAA	Quality Assurance and Accreditation
QC	Quality Control
QE	Quality Enhancement
QM	Quality Management
SACSCOC	Southern Association of Colleges and Schools Commission on Colleges
SQA	Seychelles Qualifications Authority
SSR	Self-Study Report
THEQC	Turkish Higher Education Quality Council
UGC Nepal	University Grants Commission, Nepal
VSV	Virtual Site Visit

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Chapter One: Introduction

1.1 Background

In the age of the information and communication technology (ICT), all businesses are eagerly transitioning to digital era gradually. This transition has been a routine process. Some have been transferring rapidly while others are moving gradually. The COVID-19 pandemic, however, has abruptly intervened to the gradual transformation to digital era. It has exposed the state of digital and online system of all sort of business firms. In other sense, COVID-19 pandemic emphasized the need and importance of greater digital transformation of services and more digitally centered communications (Kandri, 2020). Education is one of the sectors where a bulk of stakeholders are affected due to the COVID-19 pandemic. In the education system, educational quality audit or assessment of Higher Education Institution (HEIs) for quality assurance has been affected highly. The primary components of assessment, i.e., travel and observation, have faced restrictions resulting into severe limitations on quality assurance mechanism. The quality assurance is a mechanism of assessment of the efforts of the HEIs that are exceeding expectations of students and stakeholders, and in turn, continuously improving the quality through implementation of multidimensional strategies (Zuhairi et al., 2020). It is often said that quality begins from inner-self or determination of HEI operators, including the faculties and staff. The existing assessment system suffered due to COVID-19 related travel restriction. In addition, the practice of external validation by independent quality assurance bodies to ensure the quality of service the educational institutions are providing, also was badly affected and has become more challenging. In this context, taking into consideration of the impact of COVID-19 pandemic, this research is an attempt to bring forward the issues and challenges for quality assurance and accreditation at a time of emerging transition to digital era of accreditation.

1.2 Problem Statement

In the arena of quality assurance and accreditation, transition to digital era has been the new phenomenon brought by the COVID-19 pandemic compellingly. The pandemic has been a radical force that has compelled all stakeholders (educators, learners, policy-makers and society at large) in developed and developing countries towards a better understanding of our current education systems' vulnerabilities and shortcomings (Kandri, 2020).

While COVID-19 has forced adoption of an abrupt change in a short-period of time in both teaching-learning and assessment for accreditation. The existing practice of accreditation was conventional and was very slow to adapt to the technological changes. As a result, the diversified learning systems in higher education (Keevy, 2019) have faced big challenges in shifting towards online assessment system. With increase in digital transformation of the global education system access to learning opportunities has also been expanding. Societal trends towards increased openness in education is observed in developed countries (Vincent-Lancrin, 2016). However, the situation is not similar in developing countries, which is fueling the digital divide in higher education. Furthermore, in the developing countries where the accreditation system itself is at its

infancy, very little is known about the state of digital transformation of accreditation system. Abdelhadi (2020) conducted a study using Brainstorming methodology and concluded that COVID-19 pandemic has dramatic influence on accreditation processes, which may lead to change and/or adjust the rules and the requirements of the educational institutions due to changes in the fulfillment of the accreditation by the institutions during this period. Consistent to Zuhairi et al. (2020), the recent challenge for quality assurance is to embrace a delicate process of online digital learning (ODL) transformation into online digital system and implement the quality assessment system effectively. The COVID-19 pandemic has brought the existing challenges of the assessment of higher education for quality assessment to the next level of complexity.

Kandri (2020) accounted to the situation created by the COVID-19 related online shift of education sometimes as a long overdue and welcome rebirth of our education systems. Despite, no research been done in the context of digital transformation of the accreditation system that the COVID-19 has abruptly intervene. This research hence has made an attempt to answer the research question such as can online shift be translated into the process of assessment for accreditation with equal credibility? The Educational Quality Assurance and Accreditation Council (EQAAC) Nepal aimed in its Strategic Plan (2021-2030) for initiating online assessment system by 2023 (Subedi et.al, 2021). However, the COVID-19 has compelled for an abrupt change in the planned activities. Many of the other accrediting agencies might have also experienced the similar interruptions in their activities.

Due to the COVID-19 pandemic, quality assurance measures have been affected everywhere and new arrangements have been made as of the capability of the accrediting agencies. Different agencies have variably responded to the COVID-19 impacts in accreditation process. For example, the US Department of Education has provided temporary flexibility to corona virus impacted institutions or Accrediting Agencies that they are permitted to develop, adopt, modify, and implement temporary virtual site visit policies for assessment purpose. In the meantime, the Department has offered the discretion to extend the term of accreditation (good cause extensions), for a reasonable period of time during the COVID-19 interruption (www2.ed.gov/about/offices/list/ope). In Turkish Higher Education Quality Council (THEQC), (https://yokak.gov.tr/) staff are working in shifts during office hours and the council has been able to maintain all its activities by using online meeting tools with council members, commissions and national accreditation agencies. However, despite there appear considerable number of studies and research on impact of COVID-19 in education, including the effectiveness of virtual teaching-learning pedagogy; adaptation of QAA system in the period of pandemic and experience of virtual assessment have not been a major focus area in studies. A rigorous documentation of those efforts and associated outcomes are important components to improve the assessment quality and decision making for accreditation. It is not very clear whether the traditional forms of assessment for quality assurance and accreditation, many of which are closely linked to the pervasive development of national and regional qualifications frameworks across most parts of the globe (Allais, 2017;

Braňka, 2016; International Labour Office, 2017), would be viable at the time of crises such as COVID-19 pandemic? What options or alternatives do we have instead and what have we practiced? Have those alternatives produced appropriate / desired results? If yes, can we successfully transform our system and cope with it? If not, what sort of issues required to be addressed? What are the effects of digital divides in accreditation of higher education? These are some of the questions requiring investigative answers that this research has approached.

1.3 Objectives

The Specific Objectives of this study are:

➢ Explore the impacts of COVID-19 to the QAA Agencies of technologically advanced and weak countries;
➢ Map the innovative ways initiated by the QAA agencies to carry out assessment for accreditation in the short-term (immediate coping to the crisis) and for the long-term (planning for transformation of QAA process and System);
➢ Identify the risk and problems associated with digital transformation (innovative approach) of assessment.

1.4 Rationale of the Study

The outbreak of the COVID-19 pandemic has enormously exposed the problem faced by quality assurance practices in many countries where their systems have relatively short history. Although human lives have becoming part of the internet so we have already become habitual to living in an era where digital is the new normal (Wortmann & Flüchter, 2015); the term 'new-normal' has widely been coined as a response to the fast spread of COVID-19 and associated impacts. In this new normal, not only the credibility and authenticity check of the delivery of education service online, and learning outcomes of education service delivered through multiple platforms and modes, online has become challenging. At the meantime, COVID-19 has forced many of the activities of credibility check physically to stop or discontinue. There has not been an alternatively transferable assessment at hand, at least not in the developing countries such as Nepal, the higher education accreditation system has encountered many problems brought to the forefront by the pandemic. The higher education and its assessment for accreditation have suffered under high risk of vulnerability and are struggling hard to properly manage the credibility of assessment at the time of crisis. The situation not only proves the usefulness of effective digital platforms to overcome crisis environment but also depicts the need of digital literacy among QAA practitioners. Hence, the outcomes of this research are to identify the impact of COVID-19 on Quality Assurance and Accreditation Systems of the countries who are technologically weak, and also find the strategies to strengthen the virtual assessments so the accreditation systems are transited to the digital system successfully. The information on interim efforts made and difficulties faced by the QAA agencies of technologically weak countries towards digital transformation of the system and process would help advance the system to a next stage. It also would help to develop strategies for future disturbances of similar kind, whatever the causes of upheavals would be. Therefore, the

findings are expected to provide examples of the best practices initiated by agencies of the economically and technologically advanced countries so as to adopt similar measures by developing countries.

Institutional integrity and accountability, as well as recognizing the importance of the role higher education plays in advancing social equity are the key for institutions in the COVID-19 era and recovery period (Blankenberger & Williams, 2020). Since the impacts of COVID-19 is widening ever and expected recovery time is becoming unknown and even expanded. The policies to address the issues and challenges faced by the accreditation system required to be developed and implemented. Therefore, this study provides some empirical observations as feedback for policy-programming. Furthermore, as this sort of study is new one, it may be a good literature for future works.

1.5 Structure of Report

This research report is structured under five chapters. First chapter introduced the research issue and highlighted its research questions, objectives and research rationale. The second chapter develops conceptual understanding to the research theme and highlights the status of knowledge in the field followed by presentation of research designs the research limitation. The third and the fourth chapters present the detail finding based on the analysis of the available data and information. The chapter three provided the information on institutional profiles of the studied accrediting agencies, the challenges they faced during the early stage of the spread of the COVID-19 pandemic. The chapter also highlighted the limitations of existing accreditation system and the efforts made by the agencies to cope with the effect of pandemic. The chapter four focused on to the innovations made towards digital transformation. The differences observed in the conventional and alternative system and the outcomes of the alternative assessment practices and digital divide between the agencies of technologically advanced and weak countries are also covered in this chapter. Furthermore, chapter four also presented major outcomes of the innovative approach of accreditation system in which overall outcomes of innovative approach, the challenges and credibility, as well as risk and problems associated with alternative system of accreditation are illustrated. The last chapter, i.e., five, developed the concluding remarks of the findings and forwarded some policy-recommendations to the accrediting agencies.

Chapter Two: Concept, Context and Methods

2.1 Concepts and Context

The core concepts used in this study are quality assurance and accreditation, followed by digital transformation. The digital transformation is meant to facilitate the quality assessment at the transitional time imposed by the COVID-19 pandemic while quality assurance and accreditation are to maintain and enhance the quality of higher education at the level that the people and community get the optimum quality of service to the values, they pay for it. The pandemic has abruptly created a compulsion or brought about an opportunity to higher education institutions to deliver academic services virtually. In a similar manner, it has also forced the accrediting agencies to transform their mode of assessment towards digital and virtual mode. As a result, some of the relevant concepts are introduced below.

2.1.1 Quality Assurance and Accreditation

Quality approaches for perfection as of the demand or desire of market – local, regional, or global. Quality is a core value of higher education that assures the desires of the service recipients as per their expectations or the value they pay for the service. The quality of higher education can be assessed using different approaches and methods. Quality management, Quality control, Quality assurance, Quality assurance through Accreditation, and Quality enhancement are a few to mention. Of which, quality assurance through accreditation has been the global strategy of quality enhancement.

Quality is an inner self of a product whether it is service or goods. Quality is a multidimensional concept. Quality assurance is principally an ample journey towards improvement or progression. In the context of higher education, quality accreditation is a mechanism of assessment to determine the available quality and the efforts made by the institution to meet the expectations of students and stakeholders. However, its assessment through online system is complicated, at least in the institutions where quality has not been considered as a culture. In this context, Zuhairi et al., (2020) seen quality assurance through online assessment system as a recent challenge on the one hand and embracing a delicate process of digital transformation to ease out the challenges, the virtual assessment possesses, on the other.

According to the Article 11 (a) of the World Declaration of Higher Education, "Quality in higher education is a multidimensional concept, which should embrace all its functions, and activities: teaching and academic programs, research and scholarship, staffing, students, buildings, facilities, equipment, services to the community and the academic environment" (UNESCO, 1998). There are several approaches and methods of monitoring and evaluating the quality of services. A few to name are: Quality management, Quality control, Quality assurance, Quality assurance through Accreditation, Accreditation, and Quality enhancement. Among these, the practice of assessments for quality assurance and accreditation has been the global, with variable historical foundations and models adopted by agencies.

The quality assurance system includes, but is not limited to examining the quality of a process and outcomes of the activities. There are two types of quality assurance system: external and internal, and there is no consensus, whether the internal quality assurance (claims) should be acknowledged / recognized without conducting external assessment. In general, external quality assurance is understood through the process of accreditation, audit, performance indicators, and national qualification frameworks while internal quality assurance focuses on teaching quality and learning enhancement through the adoption of stakeholders' feedback mechanisms (students, parents, employee, and academic staff) on to their perceived quality (Williams & Harvey, 2015).

The fundamental purposes of accreditation are quality assurance and quality improvement in higher education[1]. It also empowers the stakeholders increase their expectations in relation to quality. A rapid and massive transition to distance (online) assessment system imposed by the growing health risk of pandemic demand not only for comprehensive support of digital technologies, but also the policy and guidelines consistence to the online system of assessment to ensure the credibility of the assessment. In such context, it become imperative to understand the efforts made and outcomes achieved in relation to transformation to digital assessment system, particularly in the technologically poor countries.

Digital transformation facilitates access to various services for individuals of different walks. The quality assessing agencies also facilitate and prepare higher education providers in achieving accreditation goal, including in the countries where the accreditation process is still in an infancy stage. Therefore, it is necessary to understand the digital transformation in the context of virtual /distant assessment for quality accreditation.

2.1.2 Digital Transformation

As the purpose of this research is to investigate the transformation of assessment system to digital and distant methods for accreditation, there are dozens of definitions of digital transformation. However, for present purpose, it refers to the changes experienced by accrediting agencies, as a consequence of the use of new digital technologies (Vial, 2019) to cope with and adapt to the challenges brought by the COVID-19 pandemic and for the preparation of a resilient system of assessment to the future disturbances. Brooks and McCormack, (2020) consider digital transformation more than merely migrating paper records to a computer, and more than adopting technologies to perform business operations faster and more efficiently. Digital transformation is a series of deep and coordinated culture, workforce, and technological shifts that enable new educational and operating models and transforms an institution's business model, strategic directions, and value positions (Kaputa, Loučanová & Tejerina-Gaite, 2022).

According to the Oracle cloud[2], digital transformation is often confused with two similar concepts: digitization and digitalization. Here, in simple sense, digitization is a process of transforming information from analog or manual form into digital form or converting handwritten records into

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[1] https://www.aaup.org/article/accreditation-and-federal-future-higher-education#.YP-t9brivIV
[2] https://www.oracle.com/sk/cloud/digital-transformation/ accessed on 14/07/2022

computerized records. On the other, digitalization is the process of applying digital technology and capabilities to do many of the things that human regularly do, but in new and better ways that drive improved outcomes.

The digital transformation on the other hand, is an umbrella concept of physical, cognitive and cultural components of digitalization. Digital transformation encompasses a wide variety of technologies, including applications and software, networking capabilities, artificial intelligence (AI), machine learning, augmented and virtual reality, the internet of things (IoT), sensing technology, video-based analytics, the cloud, and beyond. In this sense, digital transformation is the stage of optimum use of information and communication technology to assist humans for advance level of performance. The three components of digital transformation:

A. *Physical Digital Transformation:* employing technology to migrate the businesses

away from manual and toward digitized processes.

B. *Cognitive Digital transformation* is the use of AI and machine learning to enable sophisticated data analysis where machines are doing advanced analysis that resembles thinking like humans. These capabilities are changing the roles of data scientists and analysts and driving the need for expert-level knowledge workers for optimum level of performance of computer and information technology.

C. *Cultural Digital transformation* involves human beings who are used to acting and reacting in a certain way in their environment (work or home, for example). In the digital world, workers work alongside "smart" machines. Workers' roles change to accommodate new technology - enabled processes and capabilities. Ensuring that everyone understands the value of transformation and is equipped to make the change helps create a strong foundation for success.

Based on the above definitions, digitalization can be seen as the foundation for digital transformation that makes it possible to reimagine how an agency use its technology, people, and processes to move its business such as assessment for accreditation, forward in new ways.

Benefits of digital transformation

The overall benefits of digital transformation include:

- Deeper analytics - based actionable insights
- Faster and more efficient processes
- Increased capacity
- Reduced costs, and
- Improved safety, quality, and productivity

2.2 State of Knowledge

The Quality Assurance and Accreditation (QAA) system has already been affected in many countries across the world because of the COVID-19 pandemic. The accrediting agencies are under the clutch of lockdown and their effective service delivery has been adversely affected. Field observations and verifications have been stopped and most of the works related to quality assessment have to be shifted to the virtual means. This has raised the question of quality on the one hand and credibility of the whole system on the other. In response to the pandemic the quality assurance agencies across the world have set new guidelines and are following these guidelines and directives. At the same time, the International Network in Quality Assurance and Accreditation in Higher Education (INQAAHE) shared its principles for crisis management to its member agencies by insisting on keeping up with integrity, student protection, equity and access, faster and better coordination, stakeholder engagement, communication plans, enhanced partnership, resilience and agility. In addition to the key principles, 'COVID-19 Hub', a dedicated mechanism to support its members with solution has been established at the INQAAHE Secretariat. A study conducted on behalf of INQAAHE on 'Impacts and challenges of COVID-19 in the higher education and quality assurance sector' has revealed that 74.4% QAA agencies are operating remotely followed by 14% considering hybrid operations (remote operations and work office for specific activities) and 7% operating normally (Hou, 2020). Likewise, 60% agencies have reported that they are facing challenge on establishing communication with co-workers, HEIs and other stakeholders.

Similarly, face –to – face activities such as onsite visits have been either cancelled or postponed by 91% percent agencies. This number is handy in uncovering the challenges faced by the QAA agencies operating across the world. In such context, Patil (2020), the Co-opted Director for Asia Pacific Quality Registrar (APQR) and the Chairperson in Asia Pacific Quality Network (APQN), has proposed following strategies to responds the COVID-19 pandemic in accreditation process:

- Digitalization of quality assurance using data-based assessment frameworks
- Reduction or dispensing of site visits and face-to-face interactions
- Exploration of new technologies like Block-chain and Artificial intelligence

The field verification, one of the key chores during the quality assessment, had been postponed in many countries and in some case; the accreditation period had been extended until the pandemic was over. For example, National Assessment and Accreditation Council (NAAC) India issued an extension notice, stating:

> "Accreditation validity period for those HEIs whose validity of accreditation expires during the COVID-19 pandemic period, i.e., from the 1st of March 2020, provided the HEIs submit the online Institutional Information for Quality Assessment (IIQA) within three months from the Government/University notification to resume the normal academic activities by the HEI" (NAAC, 2020).

However, as the world already spent three years with the COVID-19 pandemic, there has been increased realization that adopting new normal (life with COVID-19) instead of waiting the period to end the COVIS-19 world, would be a better choice. The Higher Education Council (HEC) Pakistan has also issued guidelines, instructing stakeholders of HEIs about safety measures to be undertaken against of COVID-19 (HEC, n.d). The European Association for Quality Assurance in Higher Education (ENQA), Council for Higher Education Accreditation (CHEA) and other QAA agencies have also issued similar guidelines (ENQA, 2020, CHEA, n.d.). Both the European Quality Assurance Register for Higher Education (EQAR) and the ENQA issued statements maintaining that during the period when site visits to higher education institutions cannot be organized, the agencies can decide either to replace them by video conferences or other appropriate formats, or to postpone them to a later time.

QAA's International Partners' Forum hosted on 20 May 2020, representing over 50 institutions from 22 countries identified the following strategies that the agencies have employed:

- Postponing/putting on hold regulatory/EQA processes,
- Easing change-reporting requirements,
- Modifying regulations, adopting flexible interpretations and applications of standards and criteria, and
- Virtual review approaches

More importantly, it is also reported that:

> These approaches have been generally well received by HEIs, reviewers and stakeholders, but agencies that have piloted them extensively advise that there has to be mutual agreement, support and readiness for them to be successful (The Quality Assurance Agency for Higher Education, 2020).

The UGC Nepal also has endorsed a policy for an alternative measure of conducting online assessment of the HEIs and provisioned for online discussions with stakeholders, virtual visit to site and infrastructures observations, as well as for verification of institutional documents submitted along with the Self Study Report (SSR). By this, soft copies of SSR documents of respective HEIs are received online and distributed to the Peer Reviewers for assessment, deterring direct meetings. Pre-assessment, peer assessment, follow-ups, and monitoring works are being practiced by using online platforms. On June 22, 2020, the EQAAC Secretariate at the UGC Nepal notified all the HEIs enrolled in the QAA process that the assessment process will be carried out through digital means. The protocol adopted by the EQAAC Nepal includes following major strategies (UGC Nepal, 2020):

- Establishing official website/digital platform for peer assessment.
- Limiting the number of participants from HEI to 15 during online interaction with stakeholders using COVID-19 security protocols.
- Preparing video for virtual site visit and observation by institution as asked by PRT.
- Use of digital signature for verification.

As of the recent record of the EQAAC Nepal by the end of the year 2022, there are 78 accredited HEIs, with 9 been re-accredited. In addition, over 300 HEIs are at early stage of assessment and are preparing necessary documents and incorporating feedbacks provided by the Secretariat and Technical Committee. However, the pandemic has put tremendous pressure on recently established QAA System of Nepal. Thus, Nepal can also be taken as a case for the study of scopes and challenges emerging out of COVID-19 pandemic to the QAA Agencies of least developed countries, technologically, thereby understanding the transition to the digital era of accreditation of HEIs.

2.3 Methods

Since this research focused on digital transformation, we utilized the digital means and innovative methods of data collection.

2.3.1 Research Design

This research employed survey method of data collection and mixed method of analysis that refers to both qualitative and quantitative techniques applied for data analysis. Checklists and questionnaires were developed through extensive review of literature and consulting with experts. The INQAAHE membership database was used for selecting QAA agencies for information collection. Selection was from the valid members at the time of the signing of the contract (award of the grant, i.e., February 2021) to conduct this research. The Full Members were purposively selected and census method was adopted to collect the information in case of Full Members of the INQAAHE. The survey tools and instruments were sent to all the Full Members seeking for their response. The agencies were asked to provide data within 6 weeks of the receipt of the questionnaire and checklist. However, it took quite a long time and not all the emails send had been responded back, though. The respondents of the questionnaire were the high-level (executive-level) officials of QAA Agencies who hold key position in policy making and its execution. Data collection process however, took quite a long time and only a few agencies responded to the survey form. Despite repeated attempts, the response rate was lower than expected. Nevertheless, we decided to analyze the available responses rather than waiting for unknown time period.

2.3.2 Data handling procedures

Data collected for this study are entirely the property of UGC Nepal. The INQAAHE can have access to the raw data, if necessary. Intellectual property right on the data and outputs coming from the research in the form of the report is of the research team, while other scientific works are of those who engage in the role of author(s) in general, with due acknowledgement to the INQAAHE and UGC, and other individuals as of their contributions. Data safety is maintained in UGC Nepal by ensuring regular backup and recovery system. The output is expected to be presented in the INQAAHE Conference 2023 and key findings will be shared with member institutions after the report is accepted by the INQAAHE. The Final Report will be submitted to INQAAHE and UGC Nepal after incorporating their feedback on the draft report. Brief findings will be published in the UGC Newsletter and these documents will be made public through the website of the UGC Nepal.

Furthermore, formal publication of the findings will be made in peer reviewed international journals such as Journal of QAA in Higher Education.

2.3.3 Sample

There were about 300 active/full members of the INQAAHE at the time of the contract signing so was the universe for the sample. These agencies have been approached to receive the response on the questionnaire so emails to all these agencies, from both, the UGC Nepal and from the INQAAHE Secretariat were sent. The study team followed up regularly. However, after multiple attempts from the UGC Nepal and email forwarding from the INQAAHE, with a request to respond to the questionnaire, we received responses from a limited number of agencies/institutions. At the end only 28 QAA Agencies send the filled form back to us. Therefore, this study has to be limited to answers from 28 sample institutions and this has been the primary limitation of this research. Furthermore, as this research project initiated early stage of COVID-19 pandemic, the QAA agencies assessed the documents of HEIs and programs that were submitted prior to the impact of COVID-19 in their institution. Therefore, these documents did not record the information on the impact of pandemic on teaching, learning, assessment, student support services, safety, privacy and confidentiality, and equality. Consequently, there was a mismatch between the story of the document and the story from the stakeholders during the virtual site visit (VSV). Whereas the interactions with stakeholders often identified the concurrent issues (with the effect of the COVID-19 pandemic, the documents reflected the statue of pre-COVID-19 situation. This meant assessing the actual scenario became problematic. Nevertheless, the contents of the responses in the questionnaire are comprehensive and thus we believe findings from its analysis are meaningful and worth of consideration.

2.3.4 Data and information

This research collected extensive information although the respondents had been limited in terms of number. The questionnaire is placed in the annex section, which might be a valuable reference for further research in the areas of digital transformation and accreditation in higher education.

2.3.5 Method of Analysis

Our analysis is largely descriptive and occasionally with percentile. Constrained due to limited responses and contrary to our original expectation of doing both qualitative and quantitative analysis, most of what follows is the case and the narratives. This situation also forces us to raise an issue of how efficient our agencies are with respect to responding queries from partner institutions and individuals or how poorly equipped are our agencies with respect to human resources to respond to queries from partner agencies.

2.4 Ethical Consideration

Since the research has been done using online platform/s, there is a very little chance of encountering a direct risk. The UGC Nepal and the researchers are adequately aware of the individual and institutional integrity of the respondents and no activity are imposed. Also, by

nature of the research, we did not ask for any sensitive information which significantly reduces the risk level. Individual and institutional data collected for this research will not be disclosed for any purposes other than research and associated publications itself.

This research and its findings will be beneficial for the QAA agencies across the world as it intends to provide new and alternative digital measures of quality assessment in HEIs. As the research outputs will be shared among stakeholders, it would give ideas on further operations and management of agencies with better tools and models specially to deal with crisis situations.

Chapter Three: Data, Analysis and Results

3.1 Introduction

This chapter presents the information of accrediting agencies particularly on their legal status (governance structure and documentation of the services they are offering); effects of COVID-19 and the challenges the agency faced due to the COVID-19. It also reviews of the efforts made to cope with Covid-19 impacts on QAA practice and the outcomes related to transitioning towards the digital era of accreditation.

3.2 Legal status of Accrediting Agencies

3.2.1 Governance structure of accreditation agency

Governance structure is primary to an agency to work effectively towards its mission. We collected data on governance structure of participating agencies in this survey. Altogether, only 25 institutions have responded in this question. The reported governance structure was of three types, namely, fully private (12), government entity with autonomy in operation with their own Coat of Arms (9), and the society or network of accrediting agencies (umbrella organization of service provider), which were four. This shows that almost the half of the accrediting agencies are operating privately of course with the mandate from the respective government.

3.2.2 History of the accreditation agency

The history of accreditation of higher education is almost three centuries old since it has evolved in 1787 as the Board of King's College (present Columbia University), with some regulatory framework (Brady (1988). However, in this study, among those responded to the survey, Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) was the oldest agency of accreditation. It was established in 1895. Similarly, among agencies established before the 1990s, the Network of Schools of Public Policy, Affairs, and Administration (NASPAA) was established in 1977 and The University Council of Jamaica was established in 1987.

As the accreditation process received notable attention after 1990s worldwide, the number of institutions/agencies working in the field of accreditation increased significantly. Our survey responses clearly corroborate this. Of the 28 responses, four agencies were established between 1990 - 2000, other 10 agencies were established between 2000 - 2010, and eight agencies were established between 2010-2020. One of the agencies is quite new, established after 2020 (Open Christian University). Six agencies did not report this detail.

3.3 Types of Services Provided

The accreditation agencies provide different types of services to the higher education institutions. Three types of accreditation practices are reported: institutional accreditation, academic program accreditation, and faculty accreditation. Of the total 26 responding agencies, 16 practice institutional and academic / program accreditation while three practice institutional, academic program and faculty member accreditation as well. There are five agencies who practice

institutional accreditation only and three others practice only academic program accreditation. It is to be noted that one agency reported that it practices accreditation of faculty members only.

Among the agencies accrediting academic institutions, largest number reported accreditation of universities and/or colleges (17). A small number of agencies reported their involvement in accreditation of research centers together with universities (4) and distance education system (2).

3.4 Impact of COVID-19 in Physical Activities

The impact of COVID-19 in physical activities of the accrediting agencies have been enormous. Prior to COVID-19, despite the presence of a strong digital infrastructure in some countries, the accreditation agencies were not practicing distance and digital accreditation and that physical site visit was the only option in practice according to the response from the accreditation agencies during the survey. A parallel situation was reported in a latest study by Crozier and Abdullah (2020). They noted that despite a strong digital infrastructure, distance and digital accreditation as well as virtual site visit were not in common practice prior to the COVID-19 pandemic, rather, agencies have digitalized their internal workflows and processes as well as assessment activities. However, the restriction in physical activities due to COVID-19 left no option but to adapt the digital platform and virtual mode of assessment.

Respective governments decided to impose restriction on physical activities. As a result, some agencies have imposed restrictions as early as February 2020 and many others by March 2020. The date of lifting the restriction up has been variable. Restriction of physical activities, at least for three months, has been common for all agencies, while some agencies have continued it till the end of 2021. According to the agencies that reported the total days affected by the restriction ranged between 100 to 500 days. Moreover, even if the restrictions on physical activities were lifted-up, the agencies continued to limit their physical activities. Overall, almost three-fourths of the responses show reduction of 40% or more in overall physical activities.

3.5 Nature of accreditation

3.5.1 Voluntary vs Compulsory

In many countries, accreditation of higher education is compulsory. Of the total 26 responding agencies in this survey, 18 reported that accreditation was a compulsory action in their country whereas it was a voluntary participation in the case of countries where eight other agencies were located.

Responses on information about if the government / accrediting agencies allow student intake in HEIs to when the institution is not accredited, or the validity period of accreditation is over, was limited. The student intake information on non-accredited institutions is still unclear. However, even the agencies that have claimed compulsory accreditation system in their countries or their jurisdiction is compulsory, the student intake is reported to be still valid without valid accreditation period. This makes it difficult to draw a definite conclusion on compulsory provision of participation in QAA process in many countries. In this context, we asked agencies, what do they

do to the HEIs in case of expiry of accreditation period. The response was that the HEI need to validate the process, such as re-entering into the process i.e., obtain the *under-assessment status* at the minimum.

3.5.2 Financing of Accreditation

The entire process of accreditation is costly. We asked the agencies about who pays the cost involved and how it is shared if there is a provision of cost is sharing between parties involved. Three forms of financing for accreditation were reported namely, i) respective HEIs, ii) the government, and iii) cost sharing between the government and the HEI. In majority cases, HEIs being assessed paid the defined fee. Eighteen out of 24 responding agencies reported that they charge for the service they provide. Five agencies reported that the governments pay the cost of assessment for accreditation. Cost sharing was reported by an agency in which the government covered 75% of the cost and the HEI shared 25%.

3.5.3 Share of Field Assessment and Desk-work

The nature of assessment for accreditation varies in the sense of the share of field-based and office-based (desk) work. Three forms of assessments are noted: i) entirely based on desk review, ii) entirely based on field (work/observation) assessment, and iii) combination of both elements. Most of the institutions reported that they practice a combination of both elements. Among those practicing a combination of field and desk review the share of desk review ranges between 20 to 80 percent. A few agencies reported their practice of desk review only. Similarly, there were agencies who reported their assessment was entirely based on field work or fully field-based assessment but their number was quite small.

3.5.4 Facilitative vs non-facilitative assessment

Of the total respondents 22 agencies responded to this query. The results showed that the accrediting agencies practice facilitative, semi-facilitative and non-facilitative assessments. Nine out of 22 reported fully facilitative assessment and five reported their practice of semi-facilitative assessment. In addition, eight agencies reported their practice of non-facilitative assessment.

Here, the facilitative assessment refers to 'after assessment rather than making a decision, HEIs are provided recommendations in the areas requiring improvement and given time and support to address the recommendation. On performance of HEIs as recommended by PRT, and on submission of the progress report i.e., response to recommendations, the accreditation decision is made.' The semi-facilitative refers to 'after assessment, decision is made either yes or no accreditation but in case of 'no' HEIs are given opportunity to address their weak areas (as recommended/suggested by the assessors) and are re-assessed without additional fee. The non-facilitative assessment refers to 'After assessment, decision on accreditation is made after assessment as accredited or not accredited. But HEIs are given opportunity to re-apply for assessment after a certain (designated) time and they have to pay designated fee.

In specific case, there are different practices in the process of assessment, post-assessment / accreditation decision, and post-accreditation monitoring. The three cases are presented here that the Public Foundation Independent Accreditation Agency "BILIM-STANDART"'s practice is that: the assessment process is taken as an iterative process in which institutions are permitted to make commitments and the agency / Ministry has authority to impose conditions / recommendations before accreditation decision is made. Similarly, in the case of Postsecondary Education Quality Assessment Board (PEQAB), after assessment, HEIs are provided recommendations in the areas of improvement to be made by HEIs. The HEI submit a progress report but agency takes no decisions regarding the accreditation of the institutions it evaluates. On the other hand, the practice of Seychelles Qualifications Authority (SQA), after assessment, decision on accreditation as accredited or not accredited is made. However, if an HEI is accredited with recommendation, the agency conducts, a post-accreditation monitoring for purpose of compliance on the execution of recommendations annually for the period the accreditation was valid.

These cases demonstrated variable practice of accreditation and mostly they are meant to ease out HEIs the process of advancing quality context as an institutional culture.

3.6 Challenges faced and strategies adopted to cope with the pandemic

3.6.1 Challenges brought by the Pandemic in assessment practice

The pandemic itself has been the biggest challenge that disarrayed the human society socially, economically, and politically as well as spiritually across the globe. The impacts of pandemic in overall educational system have been harsh and higher education has not been an exception. The accreditation process and system of the accrediting agencies has also been tremendously affected. However, on the positive note the HEIs were forced to move towards digital transformation of educational services although the effectiveness of service delivery system was limited in the beginning. The digital transformation has already been recognized as the fourth industrial revolution; it has become imperative at the time of pandemic (Schwab, 2016). Nevertheless, not all the HEIs and accrediting agencies were prepared – physically (infrastructure), economically, and mentally (cognitively).

The digital transformation through innovation in the time of pandemic was considered to be both the means and a tool to limit its harsh effects on higher education, including in the assessment practice for accreditation. The most important is the nature of transformation, whether that lead to an appropriate level of solution or not. The creation of something new, the digital transformation for instance, is expected to change the current situation (Pavie & Carthy, 2015) on the one hand and solve many problems by increasing competitiveness in the quality of higher education. Universities around the world have started to create a learning environment that allows students not only to acquire knowledge and skills needed in their respective subject areas, but also the necessary tools to make a difference (Russo & Mueller, 2013). The assessment practice for accreditation includes these elements and this survey intended to identify some of the challenges in assessing for accreditation.

3.6.1.1 Challenges in assessment practice

Due to the COVID-19 pandemic, the assessment practices for accreditation have severely been challenged throughout the world. The challenges had been many, yet variable to different agencies. The key challenges reported by the accrediting agencies are summarized as below.

Financial Problems

Challenge of allocating financial resource is the one of the important problems the accrediting agencies faced at the time of pandemic. However, not many agencies reported this clearly. The fact that only eight agencies categorically noted the financial matter as a challenge and others did not indicates that the obstacles faced in managing financial resources to respond to the situation produced by the COVID-19 pandemic are lower for many agencies and higher to some others. Nevertheless, the major challenges they have faced in relation to the financial resources reported by responding agencies are:

- Extra burden / complication in carrying out the virtual assessments / visits due to mobility restrictions,
- Increased communication and medical cost,
- Requirement of reviewing all financial figures to achieve more with less resources,
- Difficulties in paying rent, salaries of staff since the accrediting agencies who charges service fee as they lost their regular income.
- Reduction in HEIs' payment capacity for the service as their income from student fees stopped for several months and many were able to collect only a limited amount due to online teaching-learning practices,
- Job loss for some and reduction of income as collection of service fees halted due to discontinuation of assessment.

Due to the pandemic, revenue/funding was decreased to some extent. The ever-spreading pandemic and increased medical costs led many governments and institutions cut their budget of the non-emergency areas by diverting major chunk of budget towards COVID-19 response. Of the total responses, 10 agencies reported the cut in their regular budget due to pandemic. The cut was variable across the agencies. It ranged from less than 25% to up to 75% of the annual budget. Four agencies reported their budget cut by 50-75%, the other four reported reduction of annual budget by 25 to 50%. Other three agencies also reported the budget cut by less than 25%.

3.6.1.2 Transition to Alternative mode of Assessment

As COVID-19 badly affected the physical activities of assessment for accreditation, some agencies also encountered statutory / regulatory issues to transit to the alternative mode of assessment, i.e., virtual assessment. Of the total responses obtained, 11 agencies reported statutory / regulatory issue to adopt virtual mode immediately when physical activities have been restricted. According to the number of responses obtained, the number of agencies not encountering the statutory / regulatory issues to transit to the virtual mode of assessment was also fairly the same.

The accrediting agencies developed and made a public announcement about the adoption of alternative mode of assessment for accreditation with reference to the spread of COVID-19. Following the identification of the COVID-19, almost all agencies developed various policies and strategies for transitional arrangement to cope with the new situation/environment. Agencies announced and provided information regarding the policies developed and the alternatives adopted for the accreditation in response to the spread of pandemic through online/networking sites. In reference to the date provided by the agencies in response, majority of them announced the alternatives adopted, based on the prescribed guidance of authority to the COVID-19, during March and April, 2020. Information regarding the alternatives were disseminated to the relevant stakeholders/institutions via. official website page, email. Programs like webinars were conducted to inform about the changes in policies and strategies. Some of the announcement made and the certain alternatives adopted by the agencies can be observed as following:

- Virtual site visit guideline developed and conducted research on the practice of other accrediting institutions as well as revised/expanded virtual site visit guidelines accordingly.
- Emails were sent to relevant institutions; resources were added to the website of the accrediting agencies. Regular updates sent to members and the same was published on the website for the best practices for Online Site Visits
- Several guidelines and position statements regarding the accreditation review procedures developed in the time of pandemic environment.
- Covid-19 updates and prevention measures were posted on the university website and the agency issued suspension of the work of the agency in off-line mode and switch to accreditation through adoption of on-line mode.
- General information on adapted procedures and its revisions were published in detail, on the website, the changes were announced at the Rectors' Council meetings.
- Emails to all HEIs who had open procedures or enrolled into accreditation process, recommendations to HEIs on the agencies' website, new system of online evaluations published on the agency website.
- Webinar was announced in July 2020 on the shift in the paradigm of accreditation, and other information sent in writing to institutions and peer reviewers
- Agencies sent individual e-mail letters to each university informing about the extension of the term of institutional and specialized accreditation of higher education that were re-accredited in the given year, without additional assessment.

3.6.1.3 Adjustment in statutory / regulatory provisions

The agencies facing the statutory / regulatory issues to transit to the alternative mode of assessment have overcome the challenges by development of transitional policies, procedures and strategies. Soon after restriction on physical movement while some developed new guidelines other made adjustments within the existing policies to carry out assessments. Also, different protocols were developed and decisions were made to carry out virtual assessment from physical site assessments.

The major policy issues related to statutory / regulatory provisions that has been addressed within the first phase of restrictions on physical movement included:

- Six agencies developed transitional policies, procedures and strategies shortly after physical movement was restricted,
- One agency developed transitional policies, procedures and strategies after considerable time (more than 3 months) after physical movement was restricted,
- Five agencies have adjusted within existing policies, and
- A few agencies experienced noted their problem not solved for more than 6 months since the restriction on physical movement was enforced.

After the identification of the first case of the COVID-19 in the country, most of the agencies promptly developed the transitional policies, procedures and strategies and implemented the transit arrangement / regulations for smooth, effective and efficient operation of the assessment-related activities. Within three months of the first case being detected in the country, majority of agencies began to implement transit arrangements. Of the total 21 responses obtained, six agencies transited to the alternative mode of assessment within one month of the first case was identified in the country. The number of agencies who have been able to transit to the new system in two months were two, and between two to three months was 2. Similarly, it took three months from the first case was identified in the country to transit to the new system to six agencies while four other agencies took more than four months. For a few agencies, there was no clear regulatory framework even when the COVID-19 had impacted the country for more than 6 months. But despite these time gaps in transit to digital platform among agencies, the various protocols and regulatory mechanisms developed by accrediting agencies in face of COVID-19 related restriction in physical site visit (PSV) has been reported to be clear and helpful to the stakeholders of accreditation, i.e., the assessors and the HEIs.

3.7 Limitations of existing system to function during COVID-19 crisis

Accrediting agencies identified various limitations or weaknesses of existing system to function smoothly during the time of crisis such as COVID-19 pandemic. The reported limitations are as follows:

- Technical difficulties to transform to virtual mode,
- Limited capacity of equipment and slow internet connection,
- Inadequate technical literacy
- Funding limitation to transform the system or financial vulnerability to upgrade the system
- Poor planning for transition and limited ICT knowledge of the assessors and HEI operators
- Missing comprehensiveness and collegiality of in-person site visits / physical site audit/assessment.
- Resistance / reluctance to adopt new transit arrangement which caused long gap / duration in assessment process.

- Requirement of learning, adaptation, adjustment for Reviewers and institutions in order to adapt traditional site visits to on-line (virtual) assessment.
- Reluctance on the part of reviewer for their full engagement and site visit.

These limitations have been adjusted in the existing system by changing the scenario. The agencies were asked about the activities they have done to overcome these limitations. The agencies have adjusted to the new situation created by the COVID-19 by embedding assessment procedures (by 12 agencies), digitizing in a system (by 15 agencies), developing crisis management policy (by eight agencies), and thinking/predicting extreme effects for a long time which helped to initiate prompt responses (by nine agencies). A total of six agencies implemented early and successful pandemic management policies / expectations, which, however led to no effective actions for a long time. During the pandemic, majority of the agencies, embedded the assessment procedures and digitized the system for the adjustment. Beside these, some of the agencies also made adjustments to the assessment system by temporarily. They started to conduct virtual site audits, and webinars (in place of physical forums and conferences), provisioned to make physical follow-up visits by a committee chair after the pandemic-related emergency was lifted. Some had rescheduled the review / assessment dates, as well as reduced the share of site visits in overall assessment.

3.8 The efforts made by the agencies to enhance the existing digital capacity

During the COVID-19 pandemic, many agencies have adopted a number of strategies to continue the assessment enhancing the existing digital capacity. The foremost in the use of home-based / private network was by the employee and assessors. Most of the agencies (19 agencies) allowed employees to work from home. This option had been in the time of restrictions on physical activities by the state or local authorities. To improve the agencies' existing digital capabilities, access to ICT content was increased and improved (by 11 agencies), and staff and assessors received training in digital innovation for use in the assessment process (by 17 agencies). A Wi-Fi network, computers, and other tools were also provided / improved to let personnel function in a digital environment and this strategy was adopted by 15 agencies. Agencies also put their efforts by developing / re-designing virtual site visit guidance for programs and site visit teams. Individual Zoom accounts, as well as a business Zoom account for the firm, were created and distributed to agencies' employees, along with the Microsoft Teams accounts as well as the Google Meet to conduct interactions with the stakeholders of the HEIs being assessed.

3.8.1 Modes of communication during the pandemic

Accrediting agencies used various modes of communication during the pandemic to be connected with the HEIs being assessed. As the agencies adopted different alternative ways to carry out assessment process, such alternative policies, strategies and its implementation procedure was communicated to its constituencies through emails (by dominant number of agencies, i.e., 24), followed by using digital meeting platforms (by 22 agencies) and website (by 20 agencies), as well as telephonic conversation (by 18 agencies). Other modes of communication included use of social

media (by 15 agencies). However, social networking sites / social medias were used relatively less than other means because they were considered as informal mode of communication.

3.8.2 Supports given to the HEIs from Accrediting Agencies

During the pandemic, different obstacles aroused to operate the assessment process and ease out the accreditation requirements. Accrediting agencies adopted and adjusted different transit arrangements to cope with the pandemic and continue their business. Agencies also offered supports to HEIs to ease out accreditation requirements in the time of pandemic.

Not all the agencies participated in the research reported the support they have offered to the HEIs. However, among the response received, it is identified that they offered the orientation and training for virtual assessment / reporting to the peer review team (by 18 agencies). They made flexibility or negotiated for due dates, with the HEIs being assessed (by 19 agencies). Also, few agencies provided ICT training to the HEIs (by six agencies). Beside this, agencies also supported some accredited programs by providing a no-penalty for one year accreditation extension, as well as maintain the transition to virtual site visits. Similarly, to those requesting time, extensions were provided to the next accreditation cohort for review.

The accrediting agencies have offered flexibility in assessment process considering the health threat created by the pandemic. The flexibility has been of the greatest need for the transition to digital or virtual mode of assessment because the situation created by COVID-19 was recognized as highly exceptional circumstances having serious public health threats. The virtual site visits (live or recorded) were also used by the majority of agencies as a flexible option for assessment (by 22 agencies). Agencies also extended the accreditation's validity period (by 11 agencies). Some agencies also used safety precautions when conducting on-site visits (by nine agencies). Agencies also postponed assessment-related activities indefinitely while continuing the physical assessment with some time lag (by seven agencies). The lock-down phase was only sometimes considered null / void time for a few agencies while four agencies continued the physical assessment with some delay.

Postponement of assessment for accreditation had been the main strategy during the time of COVID-19. However, only a few agencies have responded to this query if they have postponed the assessment for accreditation. Of the total 26 responses, over a half, i.e., 14 agencies, reported their information. In the peculiar circumstances posed by the COVID-19, accrediting agencies gave a variety of options to their clients and also offered flexibility in assessment time as well as in process. Various transitional arrangements were made to internationalize the assessment activities. Both positive and negative outcomes of the postponement of accreditation process have also been reported. Agencies granted accreditation extensions with a clause for review of the HEI during the next cycle. In some cases, assessment visits have been organized, however, they did not yield significant outcomes. Therefore, postponements of the assessments were legally validated by the Governments or the authorized body of the accreditation agency. Similarly, some of the agencies had reported an impact on the accreditation of the institutions, where agencies experienced discontinuation of the accreditation validity. This has resulted into reduction in the

revenue generation as well as funding to the HEIs. Furthermore, it also has affected the timely intake of students and completion of the academic program. For example, four agencies practiced discontinuity of accreditation validity, one practiced reduced funding, other two experienced reduced revenue generation and other two reported delayed intake. Similarly, one agency reported the delayed graduation while none of the agencies reported the discontinuation of intake although there was a notable delay.

Chapter Four: Innovations, Outputs, and Risk and Challenges of innovative process

4.1 Introduction

The innovations in accreditation process are the key to succeed the transition to digital era of accreditation. This study asked accrediting agencies if they have adopted some innovative approaches. During the pandemic, there was restriction for the social movement so most of the agencies were open or functioning only partially. Almost all the agencies reported that the staff were given the flexibility to work online by using the technology, and work from home during the period of closure of the 28 participants of the research. Six agencies reported remaining open using the safety measures. Nonetheless, despite being open and continuing the operation, these agencies, they did not make any field-related or in-person /face-to-face activities. Three agencies closed completely during the lockdown period. The following section presents the overall innovations enforced to adopt in the course of accreditation process during the COVID-19.

4.2 Innovations in Accreditation System

4.2.1 State response to COVID-19 pandemic

The country-wide lockdown has been the primary and first response to COVID-19 adopted by the authorities in many countries. Of the total 26 responses, five agencies reported partial lockdown whereas three agencies reported localized lockdown intended to control the spread of COVID-19 pandemic. According to the respondents, three key innovations were noted and practiced during COVID-19 periods. These include i) virtual meetings, ii) digital data depository and iii) virtual site visits. These findings are consistent with Crozier and Abdullah (2020) who noted virtual meetings and digital data depository as two major innovations. The virtual site visit (VSV) – in the forms of both live virtual tour and pre-recorded / edited promotional videos in the countries with weak ICT system and infrastructure and establishment and/or strengthening of own online platform in a few countries with advance level of ICT, have also been reported as innovations during the pandemic. In such movement-restricted working environment, adoption of alternative option to continue the business was imperative and those innovations supported the agencies to continue their business. However, as the context created by the COVID-19 pandemic was special, existing policies, which were developed in a different context, did not fully support the adoption of alternative or innovative approach of review and assessment for accreditation. Therefore, this study asked participating agencies if they experienced any policy issues to adopt innovative approach in accreditation. Their response, in general, was that there were no any policy problems to adopt innovative approach in accreditation. They started designing the online accreditation procedure and have been able to implement shortly. They also practiced virtual site visits as well in the course of assessment.

4.2.2 Response of Accrediting Agency to COVID-19 pandemic

The first innovative approach that the agencies has adopted to respond to pandemic was developing interim guidelines, followed by training provided on the same to authorities of the HEIs and roster assessors. The staff also required induction and training to remotely handling the assessment works so has been provided the same. The third option adopted was shifting to remote assessment and

utilization of third-party applications. However, most of the agencies had remote assessment in place before the pandemic and thus, they used their own online platform to conduct the assessment. The fourth option reported was the email communication followed by the virtual assessment (virtual interaction and virtual tour of the site of the HEI). Agencies also made their efforts to optimize existing online system so it could address the limitations posed by the COVID-19 pandemic. Among the reported options, introduction to the new online system was ranked as the last favored option, it was probably due to the time and resource taken to design and lunch the new online system.

At the time of crises created by the COVID-19 pandemic, question has been raised on whether the traditional form of assessment for quality assurance and accreditation would be viable. Of the total reported responses, one-half of the agencies specified that it would be viable, because it was the only available option of assessment for quality assurance and accreditation at this time of the crises. Also, the traditional assessment mode would be viable, partly, since they can be continued through adopting safety measures: using mask, sanitizing hands, maintaining physical distance, and withholding the field observations. On the other, a half of the agencies responded that there must be an alternative approach of accreditation so it could deal with the problems created by the COVID-19 pandemic.

This research also asked accrediting agencies about the options they had earlier to assess for accreditation and the alternatives they have introduced / practiced during the pandemic. The reported alternatives, or the option that almost every agency had, for accreditation, was use of virtual meeting software, enhanced email communication, cloud storage technologies for submission of documents and review, online videoconferencing technologies for virtual site visits, observations and interviews. This meant, when the physical movement was restricted and face-to-face interactions were not possible, virtual assessment was the only alternative that was practiced by the agencies as the pandemic hit hard. Moreover, the VSV helped keeping stakeholders safe from the virus, included extended number of stakeholders of HEIs being assessed e.g., alumni, practitioners, employers, and civic organizations as most of them could join the interactions and discussion from their residence. On the part of assessors, it allowed them to work comfortably, from office or home environment, and reduced the cost as well as saved the travel time (see also, Crozier & Abdullah, 2020).

The need of digital/remote assessment was primary circumstance that led the agencies take up innovation in accreditation as response to COVID-19. Beside this, potential of the using electronic / digital files instead of the analogue copies and provision of work from home and its acceptance by the authorities are other conditions that helped accrediting agencies decide to transit to digital mode of assessment.

As a response to the COVID-19 pandemic, all of the agencies reported they adopted quality audit remotely so the use of schedule-based video conferencing and online meeting tools for the task. In addition to this method, most of the agencies also used telephonic conversation and email exchanges as well as reviewed reports / documents digitally at the websites or from cloud drives.

Among the agencies participated in the survey, 90% agencies had developed their own online assessment system. Only 10% of them did not have own online assessment system but had utilized digital means to continue the task of quality assessment and accreditation.

4.2.3 The process of transition to new innovations and their reliability

In all agencies, the mostly adopted innovation was online application for meetings and interactions, facilitation workshops, submission of the documents, their review and assessment as well as continue feedback-response loop. The approaches like online accreditation cycle review management processes, video conferencing, report / document submission through cloud storage and online collaborative document reviews were implemented by the agencies. Zoom and MS Teams have been the dominant platforms used for meetings with all groups of stakeholders and individuals. The participation of international consultants and distant experts were also arranged remotely. The Seychelles Qualification Authority developed and approved Guidelines for the organization and conducted hybrid and remote external assessment (audit) within the framework of institutional and program accreditation. Other agencies prepared required legal documents and followed them after approval and endorsement from the authorized body.

Many of the accrediting agencies transited to digital or online assessment system abruptly because of the compulsion imposed by the COVID-19 pandemic. As the transition was not planned and neither of the stakeholders were prepared for such crisis, technologically and psychologically, the newly adopted assessment process may have many limitations. Therefore, we asked the agencies about the reliability of the online / digital system of assessment and accreditation. In this context, of the participating agencies 50% has rated 5 (which refers the best) for the reliability of the on-line quality assessment system and the rest of them have rated 4 and 3, referring to good and satisfactory. Therefore, transition to digital era of accreditation is obvious and it is possible without compromising the quality maintained in the traditional review and assessment conducted through physical presence of stakeholders.

In addition to the very high level of reliability of online assessment in maintaining the quality of assessment work, there are other characteristics of such innovative approach. The merit of online assessment is increased since it is effective in handling / dealing the issue; saves a lot of time and resources, it is easier to record the events, and also reduces the assessment cost. Furthermore, the alternative mode or digital mode of assessment is more efficient in implementation of the scheduled activities. It also promotes impartiality and reduces the risk of assessors being influenced from the HEI operators. The digital mode of assessment is possible even during the pandemic and other crises. Also, it reduces health risk, a major concern of the time from the perspective of public health. In these context, digital era of accreditation is possible and so need to promote for continuation of assessment for accreditation and other related activities.

Acquiring information and evaluating them for alternatives to the traditional mode of assessment for accreditation has been a biggest challenge to accrediting agencies at the start of the pandemic. All of the agencies acquired several alternatives for acquiring information for accreditation during the remote assessment. The first alternative that was adopted by 95.7% of agencies was assessing

soft copies (digital copies) of institutional report and supporting documents. Other alternatives like sending HEIs a cross-verification questions and recommendations and observing, analyzing and evaluating the progress reports were also adopted.

4.2.4 Constraints faced in transition to digital era of accreditation

Since transition to digital era of accreditation has been an abrupt compulsion, many of the agencies adopted the digital system and standards developed by other agencies. Of the total, 46.7% of the agencies have followed the standards set by other agencies while rest of the 53.3% said that they amended or customized the set to make it standard in the local context.

There were many constraints to the accrediting agencies to manage the transition. This study provided options to them and asked to rank the problem. Almost 40% of the agencies graded the first for enrolling experts for assessment as the challenge because not all the experts were prepared for the digital mode. Similarly, almost 30% graded maintaining accountability and professional ethics during the online assessment as second biggest challenge while around 10% agencies graded budget constraint as the third most burning problem.

The other constraints or issues requiring caution during the transition to digital era of accreditation were: the elements associated with the online assessment process, tools used for the purpose, and online platform that may raise the issue of privacy of information when the system was not strong enough. For the importance of the tools, 40% agencies rated 5 out of 5 (highest), meaning that it is the most critical issue requiring attention. Among others, 56% agencies rated 4 for tools while only 4% rated tools the third important issue needing attention. Accordingly, for online platform 40% agencies rated 5, 48% rated 4 and 12% rated 3. Similarly, for privacy of information, 40% agencies rated 5, followed by 52% rated 4, and 8% rated 3 level of concerns requiring attention while adopting digital mode of accreditation.

4.2.5 Key differences between Conventional and Alternative / digital mode of accreditation

Acquiring information and validating them, surveillance, ethics, and data privacy, and assurance of the quality of assessment have been the key areas where differences between conventional and alternative assessment system could be noted.

Acquiring information to alternative mode than that of the traditional mode of assessment for accreditation has been a biggest concern to accrediting agencies at the start of the pandemic. Agencies adopted several alternatives for acquiring information for accreditation during the remote assessment. The first alternative that was adopted by 95.7% of agencies was assessing soft copies (digital copies) of institutional report and supporting documents. Other alternatives like sending HEIs series of cross-verification questions and recommendations and observing, analyzing and evaluating the progress reports on-line was also adopted.

 Key differences observed by the agencies in adopting innovative approach to accreditation are adoption of many digital instruments, potential of distance working, critical thinking, flexibility of online access and technology expertise of various stakeholders. Although availability and strength

of these elements vary across the accrediting agencies, based on their exposure to and familiarity with, cloud and online technologies prior to the pandemic, use of these elements are the major differences between the conventional and alternative - digital accreditation system.

Similarly, the surveillance of activities, ethics in assessment process, and maintaining data privacy during the online assessment, although were challenging issue, had been different from traditional /conventional approach. During the online assessment the surveillance was managed through contract, company server, reporting of day-to-day activities, monitoring virtual activities; and that the issues and concerns are reported and video recording done. In the similar manner, the ethics in assessment was managed through code of ethics for experts and institutions. The data privacy was managed through adoption of data protection policy.

4.2.6 The outcomes of Alternative method of assessment

The alternatives to traditional method of assessment mostly produced appropriate / desired results. The virtual assessment, though, helped carry out the assessment process even at the time of pandemic, it is not free from drawbacks. The alternative approach is notably different than the conventional method of assessment. The agencies felt that some site visitors and programs identified drawbacks from the lack of in-person site visits. Despite the assessment is said to be virtual, most of the agencies are using blended mode, meaning that the material conditions of the HEI are still best evaluated in person. Also, online meetings do not allow for any spontaneous interviews and body languages of the stakeholders could not been understood. Therefore, it may be better to use blended mode, with major part of the assessment (data and documents) conducted online / desk review and observation and interactions (up to 30% of the share of the total assessment) conducted on-site / in-person assessment.

4.2.7 The effects of innovative assessment methods on the accreditation

The effects of innovative assessment method on the accreditation are studied for three types of accreditations - institutional, program, and faculty accreditation. The major effects reported are:

The effects of innovative assessment methods on the institutional accreditation are that the agencies working in institutional group accreditation observed enhanced quality management. According to their responses, there appears to be no significant differences in the substance and outcomes of accreditation reviews based on the review format (physical / face-to-face or online/virtual). However, greater participation, reduced costs, easy to facilitate, timely completion of the assignment, and efficient and easy access to documents and parties concerned, as well as accurate and real time recording are the other positive aspects of digital mode of accreditation.

In the context of program accreditation, the benefits of innovative assessment methods reported were easier work-flow for researching the facts and discussing results as well as making necessary corrections. However, this varies across the accrediting agencies and accredited institutions.

Of the total agencies participated in the study, none of them reported any impact on faculty accreditation. The feedback on effectiveness of online assessment has also been collected by the

accrediting agencies from both the assessors and the institutions been assessed. Out of the total participating agencies, above 70% (71.4%) of the agencies have collected and analyzed feedback information from institutions, assessors on effectiveness of online assessment and 28.6% haven't collected. Of the collected feedback, a few notables are:

The feedback from the institutions

Some accredited programs appreciated the lower cost to them since by policy, the accredited programs pay for site visits (travel, hotel, per diem costs). Others noted the lack of in-person site visits may mean the institution or program may not have been accurately assessed. Although some institutions requested to ensure the participation of all the stakeholders in various interactions and interviews by the educational organization, most of the institutions responded positively in all activities of the agencies related to accreditation.

The response from the assessors

The site visitors also noted the pros and cons of virtual site visits, but ultimately recognized the necessity of time (imposed by pandemic) and time saving. The feedback was mostly positive though they felt greater workload while working online, lack of refreshment and leisure period as well as monotonous work without physical activities. It indicates that the digital era of accreditation will be a challenge to capture the spirit of the institution, since they can only be available and accessible at the time of physical visit. Nevertheless, the assessors in digital accreditation can review records / reports / documents easily at any time. Assessors can also access their counterparts by any medium of communication. Therefore, majority of the task can be done virtually / digitally, yet, a level of physical visit and thorough inspection by assessors is desirable. This refers to the blended mode of assessment for accreditation.

4.2.8 Steps to be taken to offset adverse effect of online assessment for accreditation

The steps that can be taken to offset any adverse effect on the results of online / innovative accreditation assessment are:

- Use of the latest version of virtual site visit guidance will be more effective in reviewing in light of program and site visitor feedback;

- Conduct evaluation using blended mode as much as possible, via both online format and site-visit;

- Identify knowledgeable assessors who are the experts in the field and field visit;

- Adequate bandwidth in internet, computer-literate / techno savvy assessors and accrediting agencies

- Observance of good ethical and professional standards and improving the guidelines and procedures.

4.3 Level of success and failure experienced in relation to adoption of innovations

The digital and distant assessment for accreditation provided participating HEIs the necessary tools and skills to meet accreditation necessities on the one hand and reduce the risk of disease transmission associated with travel and face-to-face interactions. It also notably reduces the cost of assessment. Therefore, this could be an appropriate option if the credibility of assessment could be maintained using virtual mode. However, progress in the digital transformation of accreditation process and system on the one hand and the quality culture maintained by an HEI on the other affect the quality of digital and distant assessment. Although HEIs and accreditation agencies have been facing big challenges in both these issues in developing countries, the COVID-19 pandemic forced the agencies to transform their assessment system to be digital and HEIs be prepared accordingly.

4.3.1 Major challenges of online accreditation system

In general, the accreditation agencies adopted online / virtual assessment for their accreditation process. The major challenges of online accreditation system reported by responding agencies are associated with the accessibility, reliability and bandwidth of the internet. The level of digital work-friendliness of the assessors, availability of technology (computer, laptop, mobile), followed by delay in establishing proper communication with the HEIs being assessed, had been some prominent challenges. In addition, maintaining the credibility and confidentiality of the assessment, having / availability of efficient digital storage / cloud drive / server infrastructure, and digital literacy of the HEIs stakeholders being assessed were among the other constraints faced by the accrediting agencies. Similarly, the agencies' ability to carry out the tasks was hampered by a lack of interest from reviewers for online work. The hesitation to work online was also demonstrated by HEIs and other stakeholders and complicated virtual assessment procedure, delayed in development and endorsement of operating policies / guidelines from the authorized body were other issues. Some of the agencies had to deal with power outages as well.

Aside from the aforementioned issues, some agencies were unable to assess nuances during the virtual meeting because of the lack of interaction with collegiates. The lack of casual social events to better understand institution and programs as well as concerned stakeholders of the institution are indispensable components of assessment process. However, these things severely lacked in digital system of assessment. Also, the expert's interest and encouragement to do the assessment task is difficult to retain or continue during the online assessment. In other words, there often lacks refreshment excitement during the long hours of work. The home-based online activities are often disturbed as other family members are also present at home. This is particularly a concern during lock-down period induced by the COVID-19 because other family members as they are also not allowed go to their work / school / college / recreation. Nevertheless, the initial level of familiarity of staff, evaluators, and HEI representatives with cloud drive and video conferencing technology had an impact on the online assessment system. Based on the severity of the challenges, following hierarchy is observed:

Table 1: Major challenges of online assessment (based on reported responses)

SN	Descriptions	No. of agencies reporting
1	Internet access, reliability, bandwidth	13
2	Level of digital work-friendliness of assessor	10
3	Availability of technology (computer, laptop, mobile, etc.)	8
4	Maintaining the credibility and confidentiality of assessment	7
5	Delay in establishing proper communication with the HEIs being assessed	7
6	Digital storage / cloud drive / server infrastructure	6
7	Digital literacy of the HEIs stakeholders being assessed	5
8	Reluctance of reviewers in conducting virtual assessment	4
9	Lack of /delayed operating policies / guidelines	3
10	Power supply (electricity) disturbance	2
11	Hesitancy of HEIs and related stakeholders	2

4.3.2 Credibility Issue of the Virtual Assessment

The credibility of the virtual assessment is of great concern. Consistent with the findings from Crozier and Abdullah (2020), this study also identified that assessors of most of the agencies raised the issue of difference between 'seeing and feeling' According to the agencies, the assessors have stated that they had to accept what they see on the screen and could not immerse themselves in the institution as experienced by its staff and students. This limitation of VSV may reduce the credibility of the overall assessment. To address this, and for the purpose of cross-checking the information, the assessors suggested to adopt mixed or hybrid mode of assessment using both VSV and PSV. However, some of the agencies were also of the opinion that credibility of virtual quality assessment process as compared to pre-pandemic practice of on-site visit revealed consistency. Furthermore, they are also of the opinion that the virtual assessment can maintain, even improve credibility if it is effectively supported by technology. This research investigated the opinion of the accrediting agencies if there were any issues related to credibility. We found most of the responses being positive, which suggest that maintaining credibility in virtual assessment for accreditation is not a problem. Almost one- half responded that the credibility remains the same as it was when the assessment was based on the on-site visit. Similarly, less than half stated that virtual assessment can not only maintain but it can even improve the credibility, if it is assisted by well-equipped technology. Nevertheless, a few agencies responded it as problematic maintaining that virtual assessment cannot maintain credibility as to the on-site visit. Considering the pros and cons of virtual assessment most of the agencies are now practicing blended mode of assessment, i.e., a mix of both online and face-to-face meetings. This refers to real-time visualization of the site and infrastructure further supported by in-person physical inspection and observation. This study showed the virtual site visits as effective tool in collecting evidences required to assess for accreditation-related decision support. The responses also indicate that the veracity and authenticity of the documents, especially when supplemented by email requests for information,

the credibility can be increased. Whereas many respondent agencies were not opposed to credibility issue of virtual assessment, the assessors are found to prefer physical site visit (PSV) as a more realistic setting for clarification and verification according to them. This is consistent with prior study as it noted the institutions felt no significant difference in the process and scope of assessment(Crozier and Abdullah, 2020).

4.3.3 Major advantages of online assessment

As discussed above, despite unfavorable situation created by the COVID-19 epidemic, accrediting agencies devised or implemented transit plans and almost all accrediting agencies switched towards online assessment given the increased risk of pandemic. The online assessment technique primarily resulted into a steady work schedule with no major interruptions. The reported advantage of the online assessment was to safeguard health and safety of stakeholders during the pandemic. It also reduced the amount of time spent traveling and allowed employees to work from home. Online modalities were integrated into traditional quality assessment techniques as well, so it also aided in the development of efficient assessment and administrative arrangements. In addition, it saved time in comparison with an on-site visit. Table 2 presents the, major positive outcomes reported by the agencies.

Table 2: Major advantages of online assessment (based on reported responses)

SN	Descriptions	No. of agencies reporting
1	Uninterrupted work/consistent work schedule	28
2	Health and safety risk minimized	18
3	Avoidance of hectic travels and working opportunity in home-environment	14
4	Traditional quality assessment procedures can be embedded within online modes	14
5	Reduction in assessment cost	13
6	Assessment arrangement efficient administratively	11
7	Saves time	10

4.3.4 Reliably verifiable components of online system

According to the responses, the interactions with stakeholders are the primary components that can be confirmed and trusted through online assessment system. The qualitative information and quantitative data provided by the institution can be verified through online assessment. A trustworthy verification of the status and conditions of physical infrastructure can be done through online assessment. Additionally, virtual tour can be arranged and many have practiced, to check the availability and use of physical infrastructure. It is difficult to examine actual quality and adequacy of infrastructure using virtual means because the institutions may present partial picture during the virtual tour. It was noted that for assessors, without a PSV, it is not easy to get a clear understanding of the levels of a QA system in an institution. Table – shows the elements of

assessment that can be verified confidently through online system. Accreditation together with frequency of responses:

Table 3: Elements/components of assessment that can be verified through on-line

SN	Elements of assessment	Responses
1	Interaction with stakeholders	17
2	Quantitative data	16
3	Qualitative information	15
4	Physical infrastructure	6

4.3.5 Online assessment for accreditation and nurturing the institutional culture for quality enhancement

We asked if the online system of assessment for accreditation can nurture the institutional culture towards quality enhancement, creativity, and awareness creation, as well as stimulating HEIs. According to the responses online tools make it easier to reach more stakeholders, particularly those who are from remote location, can also be connected virtually during the interview and interactions. Those who have realized online assessment as a needy alternative, stated that the use of technology, qualified evaluators and various methods of verifying compliance with evaluation standards improve the institutional culture of quality enhancement. Therefore, on line assessment is relevant, at least in the time of pandemic and the like crises. Majority of the accrediting agencies, who sustained the COVID-19 impacts, think that online assessment system can bring in a culture of responsibility and accountability. They also think that it enhances creativity and innovations in assessment system.

Accrediting agencies also reported that through inducting terminology of quality management and clarifying benefits of accreditation, institutional culture for quality management could be established through online. Many agencies, however suspected that if most programs would value returning to in-person site visits like of the pre-COVID-19 time, the required support for managing the challenging times by transforming to digital era is necessary. Some agencies stated that it is too early to make any determinations about the impact of online/virtual reviews on institutional cultures. Few others were concerned with the need of a longer duration for effective implementation of online accreditation system. A few agencies expressed their inability to answer the query exactly although they have seen it as an interesting theme worth discussing. Nevertheless, educational institutions have taken positively the digitalization of the main documents of the accrediting agencies and that of the HEI being assessed. In the course of online assessment, a list of additional documents for consideration is developed? in advance and remote access for experts is provided. Modern platforms of remote interaction allow us to make the audit process the more comfortable for both experts and educational institutions. Therefore, online assessment for accreditation and nurturing of the institutional culture towards quality enhancement contributes towards creativity, awareness creation, and helps overcome the resistance of HEIs towards QAA.

4.4 Digital divide and differences in impacts of COVID-19 in technologically advanced and weak countries

One of the primary objectives of this research is to explore the digital divide and impacts of COVID-19 in the QAA agencies of technologically advanced and weak countries. We presented some of the limitations experienced during the research in the method section that the number of responses received had been limited so we could not perform a strong comparative assessment. However, from within the available responses, we have hereby tried to investigate if there existed some variation in the impacts experienced by the agencies of technologically advanced and weak countries that hints for digital divide. We believe that the variation in the impacts in relation to the digitalization of QAA system required to be understood in reference to the national context of ICT advancement. The state's overall advancement of ICT and digitalization of governance and management definitely support QAA agencies to transit their assessment system into digital. Hereunder, we presented observed differences under nine sectors:

4.4.1 Location based country classification
In order to analyze the impact of COVID-19 respondent countries were classified into technologically advanced and technologically weak countries. This classification is primarily based on the location of QAA agencies, i.e., country, and the country's status in the ICT. Accordingly, we classified two-thirds of agencies being located in the technologically advanced countries and another one-third in the technologically weak countries. During the pandemic, irrespective of technologically advanced or weak country, all agencies reduced their physical activities. However, the difference lies in the extent of reduction of physical activities in overall assessment process. The reduction in physical activities without reducing the overall assessment process was reported to be higher in the technologically advanced countries than in the weak countries. The impact of reduction in physical activity was reported to be more in the technologically weak countries. This is because, these countries lacked adequate system and infrastructure for an instant shift of existing QAA process into online working system. The weak ICT in the service seeking HEIs was additional obstacle. More importantly, both the HEIs and the accreditation agencies were dependent on third-party applications and this required higher level policy attention. As policy decisions and provisioning of financial resources for the departure took time, the consequence had been that overall performance of the agencies of technologically weak countries reduced sharply.

4.4.2 Differential response by nature of QAA as voluntary vs compulsory
The accreditation is compulsory in many developed countries, which is notably voluntary in developing ones. This regulatory issue also implies that a fully or partially developed online system within QAA agencies existed in technologically advanced countries prior to the COVID-19 pandemic. The agencies of developed countries where accreditation is compulsory had to continue the assessment because without valid accreditation, enrollment of new students would be problematic in HEIs. The technologically weak countries did not face such a compulsion and the urgency was not felt as much as the technologically advanced or developed countries. In addition,

the lack of online system of assessment also hindered them to continue the assessment using virtual mode. Furthermore, many QAA agencies of the ICT advanced countries charge assessment fee to the service seekers, i.e., HEIs being assessed. As this has been the source of revenue generation, they had to continue the assessment activities even though it is online. On the contrary, the QAA system in many technologically weak countries is newly introduced and the assessment cost is mostly borne by the government. This is also likely to be a factor for late initiation of digitalization process in the weak ICT countries.

4.4.3 State of prior database and differential impact
Prior to the spread of the COVID-19, the share of site visit for assessment was notably high in many countries, irrespective of their level of advancement in ICT. However, since the database and assessment system are well-established in the agencies of technologically advanced countries, the database related impact was low compared to the agencies of technologically weak countries. The consequence had been that the agencies of ICT-advanced countries maintained their assessment related activities even after a sharp reduction in the field-related activities, which the agencies of ICT weak countries could not maintain.

4.4.4 Difference by nature of assessment process
A large number of QAA agencies in countries with advanced level of ICT practice non-facilitative assessment. Many QAA agencies of ICT weak countries practice facilitative assessment, which means HEIs are facilitated to the point of reaching the status of QAA accreditation rather than assessing their reports and documents as unsatisfactory or satisfactory. In each step feedbacks are provided and HEIs are allowed to revise and improve their documents and infrastructures. The impact of COVID-19 pandemic was noticed more in the ICT weak countries where fully facilitative QAA process is practiced and physical presence of facilitators is expected. The COVID-19 induced lockdown and travel restrictions obviously meant no physical presence of facilitators. As a result, the whole process was delayed in the beginning and took time to resume in the modified form. Countries such as Nepal where the system was introduced with the support of development partner (IDA/WB) and with incentives for getting accreditation adopted facilitative mode of assessment. It is these countries which faced more impact than others.

4.4.5 Impact due to time gap in streamlining the new policy directives
In addition to the facilitation related issues, the agencies of ICT advanced countries met the regularities / guideline / directive / rules modification related amendments notably earlier (mostly within 2 months of the year 2020). They also embedded the COVID-19 related changes into their digital system at the same time. It was possible because many components related to online system of assessment was already in place. In contrast, it was lacking in the agencies of ICT weak countries. It also meant additional time to develop regulatory guidelines for them. There was also concern on the overall credibility of the transitional system to be adopted in the beginning.

It was noted that in order to reduce the impact of the COVID-19 pandemic in the accreditation process, the agencies of the ICT advanced countries were able to strengthen their ICT infrastructure, improve the capacity of their system, and trained the staff, assessors and

stakeholders of the HEIs being assessed as early as in the first quarter of 2020. They were able to utilize their own online platform for meetings and other tasks e.g., document submission, review, and feedback. This helped them to successfully transit to the online assessment system. On the contrary, the agencies of technologically weak countries, i.e., who lacked strong ICT system and infrastructure, had to establish these facilities at first before transiting to digital system and that they had to look for third party applications such as cloud drive and meeting platform for interaction and document sharing so as to establish new system. This implied resource mobilization in a situation where state budget provision was reallocated for addressing the curative aspect of COVID-19 pandemic. For most of the ICT weak countries, this process and negotiation took more than the first half of 2020 to start the virtual assessment, even while using third-party applications. The orientation and training for stakeholders on virtual assessment / reporting took additional time. New due dates had to be negotiated for each stage of QAA process. A number of limitations and/or challenges were faced while using third-party applications for meeting and document sharing (cloud drives and emails). For all these challenges to transition to digital system of accreditation, almost all agencies of weak ICT countries were in the agreement that the digital mode has only been considered as an alternative to the time of the COVID-19 pandemic. At the time of survey, they did not consider it as a substitute but supplementary to traditional mode of assessment. On the other hand, the responses from the agencies of ICT advanced countries indicates that digital transformation could be a suitable alternative.

4.4.6 Work from home as new approach

The chaos and the vacuum developed due to COVID-19 in the beginning resulted into a forceful transit to adoption of online / distance mode of assessment. Its impact was more noticeable in ICT weak countries than the advanced countries. The provision of work from home have been the new approach to the agencies and they considered it an innovative approach, although it was a more of a compulsion. Earlier, this mode of assessment was mostly limited to assess using electronic / digital files of scanned document rather than carrying out entire tasks through online system.

4.4.7 Impact related to third-party application

Third-party application in ICT is not a new innovation *per se*, however, it required training to the staff, the assessors, and the stakeholders of HEIs being assessed for using various modes of review and assessments. Schedule-based video conferencing / use of online meeting tools, email exchanges of large files – reports / documents using cloud drives were the major components of the digital assessment. Adopting these activities was not very smooth for them. They also faced several limitations of the third-party system / application – in terms of their compatibility and / or lacking the proper customization facilities. This transformation was rather smooth in the case of ICT advanced countries. Their stakeholders were relatively familiar with those online systems and the transition to digital system was handled in a short-period of time.

4.4.8 Impact related to resource constraints

The establishment of own online assessment system and infrastructure required significant investment at initial stage. Obviously, the agencies of ICT weak countries had resource constraints for immediate digital transformation and innovation. The constraint was related to both human and financial. The immediate lack of funding to establish their own ICT infrastructure compelled them

to dependent on the applications available in the market. Since there was a heavy demand of such applications in the market, their performance was poor at the early stage of the extended demand (first quarter of 2020). Impact related to this component was not as significant as that of ICT weak countries in the ICT advanced countries as the system and most of the infrastructure were already in place.

Resource related issues of QAA agencies in ICT weak countries also include: i) availability of devices (computer, laptop, mobile, …); ii) technology (internet access, reliability, bandwidth etc.); iii) digital storage / cloud drive / server infrastructure; iv) level of digital work-friendliness of assessor. These agencies also faced the issue of reluctance of reviewers in conducting virtual assessment and facing challenges in maintaining credibility and confidentiality of assessment. The extent of such constraints was noted as not so serious among ICT advanced countries.

4.4.9 Impact related to multiple verification option vs limited option
The agencies of ICT advanced countries were able to use multiple sources to obtain information. This helped them to verify quickly. They could assess soft copies (digital copies) of institutional report and supporting documents; send HEIs a cross-verifications questions and recommendations; analyze and evaluate the progress reports; and cross-check the data and information from EMIS archival. On the contrary, agencies of the ICT weak countries adopted only a limited option such as scanned copies of documents and no archival source for verification. This practice often took longer time, added the work load to the staff of HEIs to digitize, organize and upload the evidence ahead of the VSV and ensuring that the documents are up to date. This was taken as a challenging issue. The HEIs of ICT weak countries also lacked strong internal quality assurance system (IQAS). The third-party applications also raised concerns about data security and privacy because they were using other's platform. Furthermore, in this digitalized assessment system, the IT and accreditation team had to work instantly for retrieval of any data, record, and documents which the assessors require. This, as noted in Crozier and Abdullah (2020), was almost impossible. In terms of resource implications, this indicated that digitalization, at least in the current form of scanning and sharing the documents in cloud drives, was not reducing the cost, nor it reduced work-load of human resources.

Overall, it is clear that technological advancement has been seen as one of the prerequisites for uninterrupted assessment process at the time of crisis whether it be disaster related, socio-political and economic turmoil, or pandemic /endemic induced restrictions in physical activities. This study identified notable differences in the QAA agencies of the ICT advanced and weak countries in relation to time gap, nature of assessment system, resource constraints, prior state of technology use, third party application, reluctance in acceptance of modified system and on the whole the credibility of virtual quality assessment process and associated results, which can also be understood as an issue of digital divide. The agencies and assessors of the ICT advanced countries reported virtual assessment being credible, even better if strongly assisted by technology. The use of ICT-related system and infrastructure has given them to conduct hybrid site visits as well. On the other, the agencies with ICT weak countries see the virtual assessment as a method that may not maintain credibility as of on-site visit. It indicated that level of advancement of the ICT is

crucial for digital transformation in assessment process. Moreover, for lack of alternatives, the online system of assessment was the only way to cope with the challenge created by COVID-19.

4.5 Risks and Problems in Adoption of Innovations in Assessment

There are many risks and problems in adopting innovations in assessment system. In this section we present some of the risks and problems identified by accrediting agencies during the survey.

4.5.1 Recognition and addressal of the diverse needs and circumstances of HEIs

The accrediting agencies reported that the HEIs have diverse need of facilitation that to be adjusted during the assessment process. The areas needing adjustment are the types of technologies and their familiarity, the schedules, and specific activities in the assessment process. Accepting the offline communication has also provided flexibility in time that the HEIs required to perform the tasks. The Agencies have treated all the programs or institutions equally in terms of. The online system made it more convenient to reach out to the needy HEIs.

4.5.2 Modification/adjustments in review format and extension of validity period

The accrediting agencies reported that some accreditation cohorts were larger than expected. Therefore, modifications and adjustment in accreditation review formats/schedules have not had (and are not likely to have) any impact on student credential completion and graduation. Furthermore, many agencies either extended the accreditation period or revised the format of assessment so the intake and graduation were not affected due to the issues of accreditation. However, in connection to the pandemic, an extraordinary situation developed, that has affected the intake and graduation. Nevertheless, the decision to extend the term of institutional and specialized accreditation of higher education institutions that planned to be re-accredited in 2020 until October 1, 2020 further assisted HEIs to continued intake and graduation if they could manage health-related risks. Although the date varies, many of the institutions have extended the validity time for six months to one year in general.

4.5.3 Spontaneous consequences of the online assessment

Technology made it easier for larger groups of stakeholders to participate regardless of remoteness. Despite, a few agencies reported it was difficult to get hold of students to participate in the interaction. Other agencies reported that there was an increased participation of alumni the meetings. In some instances, it was easier to organize interviews with various stakeholders as they did not need to travel. At this point, no major unintended consequences of online / virtual reviews for accreditation have been identified. The HEIs were able to record the online meetings.

4.5.4 Gap between established accreditation system vs newly initiated accreditation

Most of the accrediting agencies did not report inequalities between established and newly initiated agencies of accreditation with respect to sudden transition to online assessment as a result of the COVID-19 pandemic. Therefore, unlike general expectation, "the age" of the system in place did not make any difference. But we also found that smaller institutions sometimes quick in adaption

than the bigger institutions and/or universities. Lack of technological capacity (slow internet connection) in remotely located regions impacted the online assessment. It created a divide between those accrediting entities who have advanced use of technology and digitization against those who are still growing with the time in general. However, inequality is associated with existing capability of accrediting agencies and the HEIs, rather than the transition created by the pandemic itself. However, some of these observations might have been associated with the early-stage of adoption. In other words, the survey was too early to bring this issue in the forefront.

4.5.5 Efforts narrow-down the digital divides in accreditation

Most of accrediting agencies have not seen any evidence of a digital divide at HEIs level in their national jurisdiction. There was technical problem during the online assessment although the risk of digital divide needs to be minimal. The main cause of the digital divide in some regions, as reported, is worse internet connections than others. However, that is more of a problem for students and not for the accrediting agency directly. The capacities of accreditation systems cannot be the same; nor can it be "one size fits all" policy Lack of technological capacity of agencies, including poor internet connection, particularly in the remotely located regions, have however created a level of digital divide.

This research also made an inquiry on whether or not the digital divide has exacerbated social injustice and inequity in accreditation process during the pandemic Responses show that the digital divide was not highly pronounced as an issue requiring urgent response. It might have been so due to urgency of the transformation. The accrediting agencies reported that during that period, they paid their attention more to diversity, equity, and inclusion since it was raised by the COVID-19 task force report. As the practice expanded, the digital divide might have increased, which needs further investigation. Although, accrediting agencies did not report digital divide as an issue, at the individual student level, the divide is likely to be noticeable. During Spring session of 2020, students were suddenly required to have sustained access to IT equipment and internet in order to participate in online learning. Reports from many countries suggest that universities and colleges provided substantial support in terms of loaned hardware, software, internet access, and training to their students. There were students without access to internet and the computer equipment. Even if these facilities existed, the poor technological capacity, i.e., slow internet connection and frequent interruption in remote areas provide clear example of digital divide at learner's level.

4.5.6 Addressing social injustice, inequity and the digital divide in accreditation process

Addressing social injustice, inequity and the digital divide in accreditation process is critical. Accrediting agencies reported some of strategies they had considered to address those issues. Some agencies reported it can be addressed by clear communication, reasonable flexibility in time and schedule, and training and support provision to the needy HEIs or assessors. The issue of digital divide was more of a national issue and the accrediting agency are one of the many stakeholders only. In addition, the budgetary assistance and support needed to address the divide can be worked out in collaboration with the government and development partners. Countries such as Nepal was

able to do so with the support from IDA through restructuring the budgetary provisions of higher education reform project.

4.5.7 Socio-psychological issues related to transition to digital era of accreditation

The accreditation agencies poorly reported social-psychological issues of adoption of innovative methods or transition to digital era of accreditation. More importantly, whatever was reported, was related to pandemic rather than to the adoption of innovative approach. The issues reported were not clearly separable among the anxiety and trauma, yet they were more or less, the psychological pressure.

Anxiety and reluctance

The anxiety due to the COVID_19 affected accreditation system in its initial phase. The panic among all stakeholders resulted into cancellation of accreditation schedule. The assessors both, internal and external were not ready while the HEIs were reluctant to host the assessment team as the lockdown was imposed. Agencies reported that, they were a bit stressful at the beginning due to the unknown territory of the innovative approach, however, over time, the agencies adapted to the new system and approaches relatively well. Being not habitual working online and conducting meetings online, they did not feel comfortable to have long hours of online meetings. Cancellation of accreditation schedule by experts due to the either the internal or external accreditor being affected with COVID-19 or the institution which has been under the locked down increased anxiety of agencies. Nevertheless, anxiety, at great extent, was due to the COVID-19.

Psychological pressure

At the beginning it was a bit of stressful time due to the unknown territory. However, accrediting agencies adapted to the process to a great extent shortly. There was internal as well as external pressure to adopt to the new situation. The individuals were affected variably.

Trauma

Undoubtedly, the COVID-19 pandemic traumatized individuals, communities and the front-line workers. The accrediting agencies were also affected in this regard: some more others less. This issue was more related to the pressure due to target-related performance. The whole schedule was disturbed but more importantly as the targeted activities happened to be in disarray, setting a clear path ahead was uncertain especially during the initial months of the pandemic. Few of the agencies, three in number, reported traumatized situation at some extent. The trauma was related to the lack of staff-member at the agency to address the issues related to psychological pressure and anxiety, others felt the increased workload because of speedy transition to digital work-life.

Chapter Five: Discussions and Conclusions

5.1 Discussion

Digital transformation of every business is the need of current time globally. The conventional businesses related to education system used to be in face-to-face mode. The COVID-19 brought remarkable pressure towards digital transformation in educational institutions. It has affected not only the development, delivery, and evaluation systems but also the process of assessment of the quality of services the HEIs are offering. With the spread of the COVID-19 reaching to the state of pandemic in just three months of its official recognition, the accrediting agencies also suffered. In this context, it has become imperative to study the nature and extent of impact of this pandemic in the assessment practice for quality assurance and accreditation. Individuals and institutions have begun carrying out some research works in various themes. This research is one of them and it focuses on the impact of COVID-19 on quality assurance and accreditation in Higher Education. It takes into account of accrediting agencies as the informants or research participants.

The history shows that accreditation system received special momentum after the 1990s although it begun some three centuries earlier. Initially, the accreditation started with institutional accreditation and it was followed by academic programs and the faculty-members gradually. Since majority of agencies apply field-based approach to assessment, COVID-19 severely affected the assessment process for QAA. As part of assessment, the accrediting agencies mostly practice facilitative assessment, which demands face-to-face interactions with stakeholders. Furthermore, despite disturbance due to COVID-19 pandemic or the process being at standstill, the accrediting agencies allowed the HEIs to intake students. Moreover, the accrediting agencies suffered various challenges and they are mostly economic, technological, and regulatory. In spite of these challenging situations created by the COVID-19 pandemic, transformation in existing system and process of assessment for accreditation was must.

Any changes in the system and process, including digital transformation, begins with the input in the institutional governance structure. Abdelhadi (2020) emphasized for changes in governance system of the accrediting agencies, and of the HEIs as well, and stated that the COVID-19 pandemic has had dramatic influence on accreditation processes. This led to change and/or adjustment of the rules and the requirements of the educational institutions due to changes in the fulfillment of the accreditation by the institutions during this period. To meet these requirements, accrediting agencies have developed and implemented new legal mechanism and regulatory policies practically within three months. Policy framework is one thing but with regards to issues related digital infrastructure the duration varies considerably. The accrediting agencies had various limitations towards digital transformation and the risk was high in poor countries. As a result, they lag behind to transform to digital mode successfully and the digital divide persists.
 The most important limitations reported are technological, followed by financial and policy related. Almost all the agencies solved policy- related issues in relatively short period of time. However, financial issue that also has affected technological issues, affected severely. The

agencies had to cope with the situation by temporary arrangements in online system using the third-party applications. Other strategies taken to cope were: virtual site visit, extension of accreditation validity period, or postponement of assessment. Some HEIs experienced discontinuation of the accreditation validity, which affected timely intake and graduation of the students. The reduced funding and revenue generation were other effects of the pandemic, which further implicated into many areas.

The state response to COVID-19 has been the extensive lock-down and emphasis on abidance of COVID-19 protocols, while accrediting agencies emphasized for finding an alternative to physical visit for the assessment. The transition to digital mode of assessment has been the prime alternative or the innovative approach adopted at this point. As Zuhairi et al. (2020) speculates that accreditation agencies may face complexities in adopting an online digital system of accreditation because of the pandemic induced abrupt transition (without adequate preparation and back-ups). Willingly or otherwise, the accrediting agencies adapted the online or digital mode of assessment. In some instances, it was adopted without sufficient planning and preparations, training, and in absence of standard digital infrastructure. Subsequently, questions were raised about the reliability of the distant, digital mode of assessment. Nevertheless, the overall responses suggested that there was an acceptable level of reliability of the work since what was adopted was the only available option during the time of pandemic.

The digital mode facilitated the continuation of business as the only alternative but it was not devoid of challenges. Adequate digital infrastructure, skilled human resource, adjustment towards working online, as well as reliable access to and band-width of internet remained major challenges. In addition, the surveillance of activities, ethical issues in the assessment process, and maintenance of data privacy during the online assessment were also noteworthy issues to be handled carefully. Amidst all these challenges and cautionary notes, the transformation effort has shown the viability of the use of digital instruments, potentials of working from distance, critical thinking, flexibility of online working and access to different stakeholders. This parallels with Patil (2020) who proposed Digitalization and use of data-based assessment frameworks, reduction of the share of site visits and face-to-face interactions, and exploration of new technologies like Block-chain and Artificial intelligence.

Despite many challenges, digital mode of assessment has been beneficial. It ensured greater participation, reduced the costs of visit, promoted easier facilitation and reduced the time taken to complete the assignment. Thus, it added efficiency in the system. It promoted easy access to documents and accurate and real-time recording facilities was possible. Taking all these together, the positive effects of digital mode of accreditation was clear. During transition, agencies faced several constraints but most of them are addressable in due course of time and with a relatively minimum effort. Despite all advantages of online mode of assessment and agencies being positive on this mode, most of the agencies adopted blended mode, or hybrid mode. This means the material conditions of the HEI are still best evaluated in person, so parts of the assessment work have been made through physical mode i.e., visit at a favorable time.

Transformation of existing practice as there was no option but to transit to online assessment in the beginning and an adoption of bended mode of assessment were the major achievements after COVID-19 badly affected the individuals and agencies of accreditation. The process or the practice of assessing digitally and remotely, is still evolving and countries are at different stages of transformation. One may argue that it is rather early to evaluate the impacts of COVID-19. However, transformation is the strategy to be adopted and it is possible, which the findings of this research suggest. Practically, almost all agencies have already initiated digitalization of the main internal documents and that of the HEI being assessed, as the initial step of digital transformation. We are optimistic to see a digital era of accreditation.

5.2 Conclusions

Transition to digital world is a routine process. However, the COVID-19 pandemic has brought it abruptly that accrediting agencies have to accept online system without adequate preparation, neither in terms of infrastructure, nor with the state of mind. The experience of many of the accrediting agencies of the developing countries reveals that the efforts of HEIs towards maintaining the quality had been challenging either due to inadequate resources or due to lack of quality culture. In the meantime, accrediting agencies have also been questioned for the credibility of assessment and accreditation since they are performing poorly. In reality it is not the system but the adoption of virtual or online assessment system without inadequate infrastructure and expertise as well as poor preparation made the process questionable. The experience shows that, the quality, in real sense, begins from inner-self or determination of HEI operators, including the faculties and staff. If these stakeholders are not committed for quality, accrediting agencies can do little to improve the quality of HEIs. Therefore, questioning the accrediting agencies is not the solution to poor quality of education. Rather, making HEIs responsible should be the prime area of attention. In other words, the scope of accrediting agencies will be limited only to assess (what is the quality) instead to approaching what ought to be the quality (improving). As a result, when accredited HEIs are not determined to quality, performance of the accreditation agencies face problems. For quality higher education, the HEIs must perform. They cannot make an excuse of COVID-19 induced restrictions in mobility for their poor performance, if any. The accrediting agencies have carried out rigorous assessments and facilitation to HEIs in order to improve their quality and quality culture.

Despite the many positive and impressive findings of this study, we also faced some problems during the research process that has compromised the expected outcomes of this research. In specific, we tried hard to reach to the every QAA agencies who are the full member of the INQAAHE. We also obtained support from the INQAAHE as well, in this regard. However, quite a few agencies participated in the research process, making it difficult to generalize the findings at the global scale. Because of limited samples we could not perform proposed quantitative studies and we urge the readers to consider this as a case study. Nevertheless, we believe that the content of the research and information obtained are strong enough to validate this research. Based on the

findings, we have seen digital era of accreditation as the new future that can be managed with minimum efforts and recommend to promote for continuation of assessment for accreditation. We also recommend the use and strengthening of digital platforms and transform the assessment system accordingly. We need to reduce the digital divide by improving existing digital infrastructure, digital cognition, and digital culture across the globe. We must recognize that the COVID-19 pandemic *per se* has brought the divide into limelight but the divide has much to with financial and technical capacity and socio-psychological state of accrediting agencies and HEIs in relation to digital transformation.

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Annex: Study Questionnaire
Questionnaire / checklist of the Research Project of University Grants Commission, Nepal in support of INQAAHE, under Research and Innovation Grant.

Project Title: Transition to Digital Era of Accreditation: Scope and Challenges for Emerging Quality Assurance Agencies

Dear Fellow Higher Education Quality Assurance and Accreditation Agencies (All the INQAAHE Member Agencies),
The University Grants Commission (UGC) Nepal kindly would like to request you, the senior officials of the accrediting agencies, to take part in this research project as informants and provide valuable information. This research project is being conducted in coordination and collaboration with International Network for Quality Assurance Agencies in Higher Education (INQAAHE). This research is jointly funded by INQAAHE and the UGC Nepal (Research and Studies) and under INQAAHE (Research and Innovation Grant) on the basis of 50% each.

Below we briefly introduced the research team, objectives and research questions of the research, as well as data handling practice to be adopted and expected outcomes of the research. Therefore, we kindly request you for your valuable time and response to the questions so we could explore some meaningful ideas to strengthen and enhance the quality assessment practice.

Project Title: Transition to Digital Era of Accreditation: Scope and Challenges for Emerging Quality Assurance Agencies

Research being carried out at: The University Grants Commission (UGC), Sanothimi, Bhaktapur, Nepal.
E-mail: ugc@ugcnepal.edu.np **/ Website:** www.ugcnepal.edu.np

Research Team:
Project Coordinator: Prof Dr. Bhim Prasad Subedi,
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Narayan Bhandari,
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Nabina Chaulagain
Aashma Adhikari,

Objectives of the research:
- Analyze the strength and weakness of existing QAA system in relation to COVID-19 pandemic
- Map the innovative ways initiated by the QAA agencies to carried out for assessment for accreditation in the short-term (immediate coping to the crisis) and for the long-term (planning for transformation of QAA process and System) basis;

- Explore and compare the impacts of COVID-19 to the QAA Agencies of technologically advanced and weak countries
- Analyze the cases of specific countries in relation to success and failure to respond the COVID-19 crisis

Research Questions:

- Whether the traditional forms of assessment for quality assurance and accreditation would be viable at the time of crises such as COVID-19 pandemic?
- What options or alternatives do we had and what are the challenges we experienced with existing assessment system in relation to COVID-19 pandemic?
- What sort of new strategies have we developed and practiced / adopted to respond the pandemic?
- Are there differences on success and failure of innovative approaches taken by different countries / QAA agencies for assessment process during the pandemic?
- Have those alternatives produced appropriate / desired results? If yes, can we successfully transform our system and cope with it? Or if not, what sort of issues required to be addressed?
- What are the effects of digital divides (between technologically advanced and weak countries) in accreditation of higher education?

Data handling and privacy

The collected data will entirely be a property of UGC Nepal. However, INQAAHE can have access the raw data, if necessary. Intellectual property right on the data and outputs coming from the research will be of research team with due acknowledgement to the INQAAHE and UGC Nepal for their contributions. Data safety will be maintained in UGC Nepal by ensuring regular backup and recovery system. The output will be presented in the INQAAHE Conference 2022 and key findings will be shared with member institutions after the report is accepted by the INQAAHE and UGC Nepal. Final report will be submitted to both of the organizations after incorporating their feedback on the draft report. Brief findings will be published in the UGC Newsletter while Summary for Policy Makers will be published in the form of Policy-Brief. Both these documents will be made public through the website of UGC Nepal. Furthermore, formal publication of the findings will be made in peer reviewed international journals such as Journal of QAA in Higher Education and both of the funding agencies and informants will be acknowledged.

Expected Results

The proposed research is expected to come up with various types of impacts and coping mechanisms for institutions addressing the impacts of COVID-19 on quality assessment process in underdeveloped and developing countries. The research is expected to be able to identifylevel of vulnerability in operation of those agencies and appropriate corrective measures to be incorporated in crisis situations. A comparative assessment of the existing digital strength and its usability in QA agencies along is expected to suggest way forward for context specific digital assessment strategies and modes applicable to those engage in quality assessment tasks.

Questionnaire/Checklist:
Please kindly fill the Google Form by opening the link:
Link to the form:

https://docs.google.com/forms/d/e/1FAIpQLSfj7Pdtszr4xhICT2zL1xBx6MGsWp7wNKVRAPK_o8CrXAFYEg/viewform?usp=sf_link

Sincere Regards,

Rishi

Below is the blank form for your reference

The Section 'A' of the questionnaire includes the profile-related information of the accrediting agency and the Section 'B' includes actual research questionnaire. The questionnaire includes both types of questions –closed responses and open answer.

Instruction to fill the response form:
- The informants are the senior officials of accrediting agencies, who are the member agencies (whether full or not) of the INQAAHE
- At this time, all the member institutions are planned to conduct a census study
- Please write the data or response / information whenever the space (…) is provided
- Please circle the appropriate response whenever the answer-options are listed
- Please specify your response whenever you choose the 'others' as response options
- Instruction to individual question is given at the place if applicable.
- For further clarification, if any, please do contact to Principal Investigator / Corresponding Researcher (email given above)
- The expected duration of return of the filled questionnaire is within two weeks after the dispatch. A gentle remainder will be sent after a week.

Section A: Detail Profile of the Accreditation Agency

A1. Please kindly introduce your agency

A1.1 Full name of the Agency: ……………………
A1.2 Mailing Address: ……………………………..
City: ……………..
Country: ……………………
Email: ………………

Position of the Respondent in the Agency (senior official who is aware of overall operation of the agency, is expected to be the respondent): …………………….

A2. Governance structure of accreditation agency **(Multiple responses are possible)**
   a. Fully government authority (use Government's Coat of Arms)

b. Government entity but is Autonomous in operation (has its own Coat of Arms)
c. Fully Private
d. Society (umbrella organization of service provider)
e. Other (Please Specify) ………………………

A3. Date / Year since the agency started practicing higher education accreditation

……………………………….

A4. Types of accreditation service the agency is offering accreditation services? (**Multiple responses are possible**)
   a. Institutional (a1. Universities;   a2. Colleges   a3. Research centres a4. Distant Education)
   b. Academic Programs
   c. Faculty Members
   d. Other (Specify) ……………..

A5. Please indicate the general impact of COVID-19 in the activities of your agency

Waves of COVID-19	Date of Restrictions on Physical activities imposed	Date of Restrictions on Physical activities lifted-up	Number of total days affected fully	Overall share of reduction in physical activities (%) after lifting-up the restrictions
First				
Second				
Third				

A6. Is the accreditation system in your country / jurisdiction is compulsory?
   a. Yes
   b. No

A7. If 'No', Are HEIs allowed to admit new students / continue the intake without valid accreditation period?
   a. Yes
   b. No
   c. Please state if there is any other provision for continuation of intake …………………

A8. Who pays for the service (assessment cost of the accrediting agency) related to accreditation?
   a. Government
   b. Institution / service seeker being assessed
   c. Associations/ organizations (the umbrella organization of service seekers)
   d. Share the cost (partially by the government, service seeker, organizations)
   e. Other (specify) …………………………

A9. If the cost of assessment is shared **(in case of 'C' responses in the question A8 above),** please mention the share (in percentage) of different stakeholders.

    a. ………… % by the government
    b. ………... % by the service seeker (Institution/individual)
    c. ………… % by Associations/ organizations (the umbrella organization of service seekers)

A10. Please mention the share of desk review and field verification in assessment for accreditation:

 a. Desk review ………… %
 b. Field verification: ……... %
 c. Other (Specify: …………………) %

A11. What is the nature of assessment practice in your agency?

a. Non-facilitative: After assessment, decision on accreditation or not is made and HEIs are given opportunity to re-apply for assessment after certain (designated) time, with payment of designated fee (after assessment decision of success or failure is made)

b. Partially facilitative: After assessment, decision on accreditation or not is made, however, HEIs are given opportunity to re-work in the weak areas (as recommended/suggested by assessors) and the HEI is re-assessed in same fee paid earlier

c. Fully facilitative: After assessment, HEIs are provided recommendations in the areas of improvement to be made by HEIs before they could be accredited. On performance of HEIs as recommended, and submitting the progress report (response to recommendation), the accreditation decision is made.

d. Any other provision (please specify) ………………

Section B: Innovations in Accreditation System

B1. Challenges brought by the Pandemic in assessment practice:

B1.1 Was there any challenge with the financial resource to respond the situation created by COVID-19 pandemic?

    a. Yes
    b. No

B1.1.1 If 'yes', please mention: ………………….

B1.2 Was there any cut in regular funding or revenue generation in the agency due to COVID-19 pandemic?

    a. Yes
    b. No.

B1.2.1 If yes, what percentage of decrease in revenue/funding is experienced?

    a. Over 75%
    b. 50-75%
    c. 25-50%
    d. Less than 25%

B1.3 Did your agency encounter any statutory/regulatory issues to transit to the alternative mode of assessment?

      a. Yes
      b. No

B1.3.1 If yes, how was the statutory/regulatory issues solved?

      a. Developed transitional policies, procedures and strategies shortly after physical movement was restricted
      b. Developed transitional policies, procedures and strategies after considerable time (more than 3 months) after physical movement was restricted
      c. Adjusted within existing policies
      d. Not solved for more than 6 months since physical movement was restricted
      e. Any other (please specify ……………)

B1.3.2 How long did it take to develop (and implement) the transit arrangement or regulation after the spread of the COVID-19 in the country?

      a. Within one month of the first case was identified in the country
      b. Within two months of the first case was identified in the country
      c. After two months from the first case was identified in the country
      d. After three months from the first case was identified in the country
      e. After more than four months from the first case was identified in the country
      f. There was no clear regulatory framework till the fifth month from the first case was identified in the country

B1.4. What were the weaknesses of existing system to function smoothly during the time of crisis (COVID-19) Please list down.

      1. …………………………………
      2. …………………………………
      3. ………………………………….
      4. ……………………………………

B1.5 How the existing system was adjusted to the new situation created by COVID-19? (**Multiple responses are possible**)

      a. Embedded the assessment procedures
      b. Digitation in a system
      c. Crisis management policy at place
      d. Thinking /prediction of extreme effects for long helped initiate prompt responses
      e. Expectation of early and successful management of the pandemic led to no effective actions for a long
      f. Any other (please Specify) …………………………….

B1.5.1 What efforts were made to enhance the existing digital capacity of the agency? (**Multiple responses are possible**)

      a. Added the number of ICT materials
      b. Trained the staff and assessors with digital innovations

c. Provided / improved Wi-Fi network, laptops and other materials to facilitate staff for facilitating digital working environment
d. Provision of Work-from home was in time
e. Work-from home allowed within a couple of weeks of restriction on physical movement
f. Any other (please Specify) ……………………………….

B2.5.2 What sort of announcement have been made and when (provide date) in writing, and publish on their websites/online platform, about the alternatives adopted for accreditation in reference to the spread of COVID-19?
……………………………….

B1.6 What were the various modes of communication established with HEIs during pandemic? **(Multiple responses are possible)**
a. Telephonic conversation
b. Using digital meeting platforms
c. Website
d. Social Media
e. Email
f. Any other (please Specify) ……………………………….

B1.7 What kind of supports were offered by your agency to the Higher Education Institutions to ease out accreditation requirements? **(Multiple responses are possible)**
a. Provided fund/financial assistance to purchase ICT materials
b. Provided ICT training
c. Orientation and training for virtual assessment / reporting
d. Flexibility in or negotiation in due dates
e. Any other (please specify) ……………………………….

B1.8 Can you please mention the flexibilities adopted/granted in accreditation process to handle pandemic transition? **(Multiple responses are possible)**
a. Postponement of the assessment-related activities for indefinite period of time
b. Extension of accreditation validity period
c. Consideration of lock-down period as a null/void time
d. Carrying on-site visits using safety measures
e. Conducting virtual site visits (live or recorded)
f. Continued the physical assessment with some delay
g. Other options (please specify) …………………………..

B1.9 What were the impacts of postponement of accreditation to the institutions? **(Multiple responses are possible)**
a. Discontinuity of accreditation validity

b. Reduced funding
c. Reduced revenue generation
d. Delayed intake
e. Discontinuity in intake
f. Delayed graduation
g. Any other (please Specify) …….…………………………….

B2. Innovations in accreditation process
B2.1 What was the status of your agency during period of restricted social movement due to the pandemic? **(Please select only one response)**
    a. Fully open using safety measures
    b. Partially open
    c. Completely closed
    d. Other options (please specify) …………

B.2.2 Did you allowed work-from-home option during the period of closure?
    a. Yes
    b. No

B2.3 How was the COVID-19 pandemic responded at first, in your country? **(Multiple responses are possible)**
    a. Country-wide lockdown
    b. Partial lockdown
    c. Localized lock-down
    d. Fully open using safety measures
    e. Other options (please specify) ……………

B2.5 Were there any policy complications to adopt innovative approach in accreditation? If so, how have they been addressed? How have different national regulatory and quality assurance regimes satisfied during the pandemic?

……………………………….

B2.6 Please mention the innovative approaches in your agency has adopted to respond to COVID-19 pandemic in progressive order (first to the last)
    a. Developed interim guidelines …………… order
    b. Extension of accreditation deadlines …………… order
    c. Trained authorities of HEIs, Roster of Assessors, and Staff for remotely handling of assessment works …………… order
    d. Shifting to remote assessment (prioritized for desk evaluation) …………… order
    e. Initiated virtual assessment (virtual interaction and virtual tour) …………… order
    f. Email communication …………… order
    g. Optimized existing online system …………… order
    h. Introduced new online system …………… order
    i. Utilized third-party applications (virtual meeting applications) …………… order
    j. Any other (please Specify) ……………………………… (…………… order)
    k.

B2.6 Whether the traditional forms of assessment for quality assurance and accreditation would be viable at the time of crises such as COVID-19 pandemic by adopting following means? **(Multiple responses are possible unless the response is 'e')**
   a. Following all safety measures: using mask, sanitizing hands, maintaining physical distance
   b. Withholding the field observation
   c. Transitional Accreditation
   d. Any other (please Specify) …………………………….
   e. No! there must be an alternative approach to deal with the COVID-19 pandemic

B2.7 What options do we had to assess for accreditation and what alternatives we have introduced / practiced as pandemic hit hard?

Existing practice of assessment (any existing technological practices that could be utilized during the period of crisis)	New innovations

B2.8 What circumstances lead your agency to take-up innovations in accreditation as response to COVID-19? **(Multiple responses are possible)**
   a. Realization for the need of digital/remote assessment
   b. Potential of the using electronic / digital files instead of the analogue copies
   c. Provision of work from home and its acceptance by the authorities
   d. The felt need for policy reform
   e. Any other (please specify) ………………………………

B2.9 If your agency was conducting quality audit remotely, what methods are used? **(Multiple responses are possible)**
   a. Schedule based video conferencing / use of online meeting tools
   b. Telephonic conversation
   c. Email exchanges
   d. Review of reports/documents from websites
   e. Review of reports/documents from cloud drives

f.   Other tools (Please specify) ……………….

B2.10 Did you develop your own online assessment system?
a.   Yes
b.   No

B2.11 Please describe in brief about the process of execution of the adopted innovations.
……………………………….

B2.12 How do you express the reliability of the on-line quality assessment system you have practiced? Please indicate in a 1 to 5 in the Likert Scale (1 referring the poor and 5 referring the best)
1-----------2--------------------3----------------4------------------5,

B2.13 How do you assess the merits of innovative assessment? **(Multiple responses are possible)**
a.   Effective handling
b.   Time saving
c.   Recording of events/activities
d.   Reduction in assessment cost
e.   More Efficient to implement the scheduled activities
f.   Impartiality promoted
g.   Made work possible even during the pandemic
h.   Reduced health-risk
i.   Made it possible for continuation of accreditation-related activities
j.   Any other (please Specify) ……………………………….

B2.14 If you followed the standards set by other agencies, was it totally applicable to your system?
a.   Yes
b.   Need amendments to fit in the local context

B2.15 Please mention the areas of constraints faced by your agency? (please grade them).
a.   Budget (………….. grade)
b.   Enrolling experts for assessment (………….. grade)
c.   Maintaining accountability and professional ethics during the online assessment (………….. grade)
d.   Any other (please specify) ………………. (………….. grade)

B2.16. How did your agency acquired information for accreditation during the remote assessment?
(Multiple responses are possible)
a.   By assessing soft copies (digital copies) of institutional report and supporting documents
b.   Sending HEIs a cross-verifications questions and recommendations
c.   Observing, analyzing and evaluating the progress reports
d.   Crossing-checking the data and information from EMIS archival
e.   Any other (please Specify) ………………………….

B2.17 Please describe the appropriateness, with your additional comments, if any, of the online assessment processes (tools, online platform, privacy of informants, …) for accreditation (rate in the Likert Scale, 1 referring poor to 5 referring the best)

Elements	Rating	Additional Comments
Tools	1---2---3---4---5	
Online platform	1---2---3---4---5	
Privacy of information	1---2---3---4---5	
Any other (specify) ……………………..	1---2---3---4---5	

B2.18 Please mention the roles of the key stakeholders as driver (enhancer) or hinderer in implementing online assessment for accreditation.

Actors/ Stakeholders	How have they acted as drivers:	How have they acted as hinderers:
Accrediting agency		
Assessors		
HEI operators / management		
Teachers / faculties		
Universities		
Service provider (Electricity/Internet)		
Others (Specify) ………		

B2.19 What are the key differences observed in adopting innovative approaches in accreditation? Please list a few.
1. ……………………………
2. ………………………………….
3. …………………………………
4. …………………………………….
5. ……………………………………………

B2.20 What are the effects of innovative assessment methods on the faculty / programs / institutional accreditation?
a. Effects in Faculty accreditation ……………………………….

b. Effects in Programs accreditation ……………………………….

c. Effects in Institutional accreditation ……………………………….

B2.21 How have the surveillance, ethics, and data privacy maintained during the online assessment? State briefly.
   a. Surveillance maintained through: …………………………….
   b. Ethics maintained through: …………………………….
   c. Data privacy maintained through: …………………………….

B2.22 Have the alternatives to traditional method of assessment produced appropriate / desired results? If yes, can we successfully transform our system and cope with it? Or if not, what sort of issues required to be addressed?
…………………………….

B2.23 Have we collected and analysed feedback information (from institutions, assessors) on effectiveness of online assessment?
   a. Yes
   b. No

B2.24 if yes, what are their responses?
   a. Response from institutions: …………………………….

   b. Response from assessors / Peer Reviewers: …………………………….

B2.25 What steps can be taken to offset any adverse effect on the results of online / innovative accreditation assessment?

…………………………….

B3. Success or failure of innovative approach
B3.1 What were the major challenges of online accreditation system? **(Multiple responses are possible)**
   a. Availability of technology (computer, laptop, mobile, …)
   b. Internet access, reliability, bandwidth
   c. Digital storage / cloud drive / server infrastructure
   d. Digital literacy of the HEIs stakeholders being assessed
   e. Level of digital work-friendliness of assessor
   f. Lack of /delayed operating policies / guidelines
   g. Delay in establishing proper communication with the HEIs being assessed
   h. Power supply (electricity) disturbance
   i. Little interest of HEIs and related stakeholders
   j. Little interest of reviewers in conducting virtual assessment
   k. Maintaining the credibility and confidentiality of assessment
   l. Other options (please specify) …………………………………………….

l

B3.2 Please mention the credibility of virtual quality assessment process, comparing to your pre-pandemic practice (**Multiple responses are possible unless they are conflicting each-other)**
   a. It remains the same as it was through on-site visit
   b. Virtual assessment cannot maintain credibility as on-site visit does
   c. Virtual assessment can maintain, even improve credibility as on-site visit does if it is assisted by technology well
   d. Other remarks (Please specify) ………………

B3.3 Please provide the number of assessment carried out virtually Since January 2020 till the end of June 2021 (in the last 1 and a half year).

Assessment types	Number of fully completed assessment	Number of partially completed assessment
HEI Assessment		
Program Assessment		
Faculty Assessment		
Other (specify) ………………		

B3.4 What are the major outcomes (benefits) of online assessment? (**Multiple responses are possible)**
   a. Uninterrupted work/Consistent work schedule
   b. Administratively efficient assessment arrangement
   c. Health and Safety at the time of pandemic
   d. Reduction in assessment cost
   e. Time saving
   f. Reduces hectic travels and provides working opportunity in home-environment
   g. The traditional quality assessment procedures can be embedded with online modes
   h. Any other (please Specify) …………….……………………………….

B3.5 How effective has been the online assessment for accreditation to cut /reduce the assessment cost, assessment time, and maintaining the quality credibility of assessment?

To Cut/reduce Time	To Cut/reduce Cost	To maintain the quality/credibility
Very effective	Very effective	Very effective
Moderately effective	Moderately effective	Moderately effective
Not effective at all	Not effective at all	Not effective at all
Any other (please specify) ……………………	Any other (please specify) ……………………	Any other (please specify) ……………………

B3.6 What are the elements / components those can be verified and trusted through online assessment? (**Multiple responses are possible)**

a. Interaction with stakeholders
b. Qualitative information
c. Quantitative data
d. Physical infrastructure
e. Any other (please Specify) ……………………………….

B3.7 Can / would / has online assessment for accreditation nurture the institutional culture towards quality enhancement through creativity, create awareness, stimulate HEIs, and minimizes resistance to QAA? How? Describe in brief.
………………………….…………………………………..

B4 Risks and Problems in Adoption of Innovations in Assessment
B4.1 What are the risks and problems of online assessment for accreditation? (Please rank the following based on their servility (1 means highly problematic and gradually reduces the level of risk/problem as rank increases)
a. Authenticity of documents
b. Cross-verification of service delivery system
c. Service quality
d. Teaching / learning resources
e. Indoor/outdoor environmental quality
f. Laboratory facilities and quality of elements
g. Quality and sufficiency of infrastructure
h. Staff's / faculties' and students' appraisal towards the HEI
i. The communal psychology towards the institution
j. Any other (please Specify) …………………………….

B4.2 Are there problems associated with least appropriate quality assurance mechanisms due to shift in online system of assessment? If so, what sort of inadequacies are observed?
a. Digital literacy related: ………………..

b. Minimum standard in ICT infrastructure related: ……………………………..

c. Verification of quality measures related: …………………………………

d. Any other (please Specify and explain) …………………………….

B4.3 What are the main challenges your agency faced in online assessment and how have they been addressed?

Challenges / ranking	Strategies taken to respond
Digital divide /…………	
Cycle break in assessment /…………	
Different level of technological advancement /…………	
Different level of technological know-how among the stakeholders /……	

Reliability /bandwidth of internet connectivity /……	
Reliability of electricity supply /……	
Revenue loss /……	
Problem in Cross-verification of documents / …………	
Risk of real picture being missed-out / …………	
Feeling /internalization of assessment (psychological) / …………	
Maintaining credibility of assessment /……	
Inconvenience in reviewing digital documents /……	
Long hours of screen time / (passivity) / …………	
Monotonous /loneliness / …………	
Any other (please Specify) ………… /……	

B4.4 How has the diverse needs and circumstances of HEIs recognized/addressed through innovations in accreditation? (**Multiple responses are possible**)
   a. Facilitating the institution specific needs
   b. Adjusting the assessment schedules/activities
   c. Accepting the offline communication
   d. Flexibility in time
   e. Any other (please Specify) …………………………….

B4.5 Has any necessary shifts in assessments affect the completion, particularly for those scheduled to graduate in 2020, 2021? How has that been adjusted? Please provide a detail story.
……………………………….

B4.6 What sort of unintended consequences identified during the online assessment? (e.g. for activities that required participation of stakeholders)
……………………………….

B4.7 Has the sudden transition to online assessment as a result of COVID-19 pandemic created inequality between developed/established accreditation system and developing/newly initiated accreditation? If yes, what sort of inequalities have been observed and how should they be responded?

……………………………….

B4.8 What are the effects of digital divides in accreditation of higher education? (within the agency's national context)
………………………….

B4.9 Do you feel that digital divide has exacerbated social injustice and inequity in accreditation process during the pandemic? If yes, how? In what way?
………………………….

B4.10 How can we address the effects of social injustice, inequity and the digital divide in accreditation process during the pandemic or any other emergency situations?
………………………….

B4.11 Any of trauma, psychological pressure and anxiety in relation to accreditation experienced during the pandemic?
    a. Anxiety: ………………………….

    b. Psychological pressure related: ………………………….

    c. Trauma related: ………………………….

    d. Any other (please specify): …………………………..

C. Do you want to add additional information that is relevant to this study but the questionnaire did not cover? Please provide information you desire to share.
……………………….

The End

Thank you!