Scholastic Endeavor Amidst the COVID-19 Pandemic

Proceedings of the MICD Webinars

Master in International Cooperation and Development

Faculty of Humanities and Social Sciences

Mid-West University

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Editors : Daya Raj Subedi and Rabin Malla

Published By : Master in International Cooperation and Development
Faculty of Humanities and Social Sciences, Mid-West University

ISBN : 978-9937-1-1143-0

First Edition : 2021 AD

Printed at: Routa Printing Support
Anamnagar, Kathmandu
Phone No. : 01-4102996

Abbreviations

BS	Bikram Sambat
CBS	Central Bureau of Statistics
CDM	Clean Development Mechanism
CDN	Cooperation and Development Network
CEO	Chief Executive Officer
CER	Certified Emissions Reduction
CO2	Carbon Dioxide
COP	Conference of the Parties
COVID-19	Coronavirus Disease of 2019
ECD	Early Childhood Development
ERU	Emissions Reduction Units
EU	European Union
FHSS	Faculty of Humanities and Social Sciences
FWP	Far-West Province
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GNI	Gross National Income
GoN	Government of Nepal
HDI	Human Development Index
HUST	Huazhong University of Science and Technology
ICT	Information and Communications Technology
ICU	Intensive Care Unit
ILO	International Labour Organization
IMF	International Monetary Fund
INC	Intergovernmental Negotiating Committee
I/NGOs	International/Non-governmental Organizations
IPCC	Intergovernmental Panel on Climate Change
KU	Kenyatta University
LDC	Least Developed Country
MICD	Master in International Cooperation and Development
MoALD	Ministry of Agriculture and Livestock Development
MoCTCA	Ministry of Culture, Tourism and Civil Aviation
MoEST	Ministry of Education, Science and Technology

MoHP	Ministry of Health and Population
MT	Metric Tons
MU	Mid-West University
NAFEA	Nepal Association of Foreign Employment Agencies
NDC	Nationally Determined Contributions
NO2	Nitrogen Dioxide
NPC	National Planning Commission
NRB	Nepal Rastra Bank
NPR	Nepali Rupees
NTB	Nepal Tourism Board
OPD	Out Patient Department
PCR	Polymerase Chain Reaction
PPE	Personal Protective Equipment
PPM	Parts Per Million
RHF	Resources Himalaya Foundation
RDT	Rapid Diagnostic Test
SDG	Sustainable Development Goals
SMEs	Small and Medium-sized Enterprises
TU	Tribhuvan University
TV	Television
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
USD	United States Dollar
WB	World Bank
WCC	World Climate Conference
WFP	World Food Programme
WTTC	World Travel and Tourism Council
WHO	World Health Organization

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Mid-West University

Office of the Vice-Chancellor

Surkhet, Nepal

Ref. No.:

Date: 28 December 2021

Congratulatory Message

The Covid-19 pandemic is persisting. Amid this pandemic, the Mid-West University has adopted its core principle that learning should be sustained under whatever circumstances. I am pleased to see that MICD-MU has adhered to this principle and the result is now in front of us. I congratulate the MICD-MU family on their decision to publish the proceedings of the webinars under *Scholastic Endeavors amidst the COVID-19 Pandemic*. I extend my heartfelt thanks to the MICD-MU Team and everyone who worked tirelessly to make this proceeding available to the general audience. Nonetheless, this publication will benefit three essential pillars of our university's academic institutions- teaching, research, and publication.

I attended almost every webinar that MICD-MU organized during the pandemic. The webinars covered three domains of Sustainable Development Goals (SDG): Economic, Social, and Environmental. During the webinars, I participated in and observed intense debates and comprehensive discussions based on research and facts about the contemporary issues of the pandemic world. The participants enriched it by giving examples of local initiatives in dealing with the disease while enhancing its scientific understanding. I am confident that the content of this publication is much useful, well-informed, and context-specific. Furthermore, I believe scholars, policymakers, practitioners, and students will be greatly benefited from this publication.

I would like to accentuate the MICD-MU family to keep up this kind of good work and express my good wishes for their upcoming academic journey.

Professor Dr. Nanda Bahadur Singh
Vice-Chancellor

Vice-Chancellor

Phone No.: 083-525333 www.mu.edu.np | E-mail: vc@mu.edu.np

Pavia, 14, December 14, 2021

Dear friends and colleagues of MICD it is with great pleasure that I congratulate you for the beautiful edition of the webinars you have been able to organise during the academic year 2021. It is a remarkable achievement and looking at the content of the booklet I must say it is also an impressive collection of knowledge. This booklet is an example of what can be done even during complicated teaching periods, in which the direct contact with the student is difficult. You have provided your students and indeed all the CDN community with a great example and an extremely valuable tool for mutual knowledge.

My sincere congratulations to Professor Dr. Nanda Bahadur Singh, Vice-Chancellor of MU for this achievement. I Would like to express my appreciation to Professor Dr. Dinesh Raj Bhuju, Daya Raj Subedi and Rabin Malla.

Let me also recall Prakash Sharma, a former student of the Pavia master program that so much did to bring MICD to Nepal. MICD, MU and you all are precious resources for your students, your country and for all of us.

Let me finally remember a dear friend, an excellent colleague and a great person the late Suresh Pradhan; the sorrow for not having him with us any more is mitigated by the fact of having had the pleasure and the joy to meet him and his beautiful family.

With all my heart

Gianni Vaggi

Prof. Gianni Vaggi (PhD)
Professor of Economics and Management of Cooperation and Development
Director of the Master Program in Cooperation and Development in Pavia
Coordinator of the UNESCO Network International Cooperation and Development
gianni.vaggi@unipv.it

Acknowledgements

This publication owes a debt of gratitude to a number of individuals and organizations for their generous contributions and encouragement, which we gratefully recognize. First and the foremost, the successful completion of this webinar series and publication of this volume would not have been possible without the energies, support, and active participation of invited dignitaries, experts and participants during the webinars.

The continuity of academic programs and activities during the COVID-19 pandemic has become possible in MICD-MU and MU as a whole under the patronage of Professor Dr. Nanda Bahadur Singh, Vice-Chancellor of MU. Therefore, we are very grateful to Professor Singh for his unwavering support and inspiration.

We are especially grateful to Late Suresh Pradhan, Academic Advisor and Senior Faculty of MICD-MU, for his constant support and encouragement, without which we would not have made it this far. His outstanding leadership in organizing the webinar titled 'International Development Cooperation in Nepal: Policy and Priorities of the Government' and preparing the report of it is commendable.

The Resources Himalaya Foundation (RHF) not only provides physical space for MICD-MU, but also academic support during critical times for us, such as organizing these webinars. Accordingly, we owe a special debt to the RHF.

We would also like to acknowledge Panch Dev Bhatta, an Assistant Professor at MU, for his technical/IT support in organizing the webinars. Last but not least, our colleague at MICD-MU office: Sandhya Subedi, Sharmila Hamal Rana, and Jeevan Pandey deserve more thanks for their administrative support.

Daya Raj Subedi and Rabin Malla
Editors

Scholastic Endeavors amidst the COVID-19 Pandemic: An Introduction

Dinesh Bhuju, Daya Subedi, Prakash Sharma

Throughout history, as humans spread across the world, epidemics due to infectious diseases have been a constant companion. The impacts of such epidemics were seen in all aspects of development including education. In response to the epidemics, colleges and universities have a long history of canceling classes and closing campuses to prevent the spread of infectious diseases. In Europe, most students and teachers fled the city or returned to the countryside to avoid the epidemic such as plagues until the recent past. As the epidemics did not end and struck seemingly at random, universities had to adapt to the "new normal". Some of them enacted compulsory mask-wearing, some had classes in the open, and others created epidemic plans including continuity of instruction policies. University students and faculty members also responded by volunteering to care for others while their laboratories speeded their research studies that led to scientific breakthroughs in terms of discovering the concept of quarantine, the development of vaccines, and novel treatment modalities. In Nepal, the college and universities were established and developed only in the late 1960s, thus, the pandemic due to Coronavirus disease of 2019 (COVID-19) was their first and new experience to deal with.

COVID-19 and Effects

The COVID-19, caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) was first reported in Wuhan, China in December 2019 (WHO, 2020a). Soon it was detected across the globe due to its extremely infectious pathogenic nature, which was fuelled by an interconnected globalized world. The World Health Organization (WHO) declared COVID-19 a pandemic in March 2020, citing 118, 000 cases and 4291 deaths in 114 countries throughout the world (WHO, 2020b). The first SARS Coronavirus (SARS-CoV-1) had appeared in 2002 and the WHO had issued a global alert in 2003. The epidemic due to SARS-CoV-1 was contained in a year, thanks to the public health measures taken on time. The SARS-CoV-1 spread social panic and brought a huge economic loss which was estimated US$ 12-18 billion in

Asian countries alone as it depressed tourism, travel, and retail sales (Qiu et al., 2018). Amid the persisting fear, the SARS-CoV-2 has appeared bringing much more impact on all aspects of development: social, economic, and environmental.

In Nepal, the first case of the COVID-19 pandemic was reported in late January 2020, when a Nepali student arriving in Kathmandu from Wuhan tested positive. Amid concerns of the COVID-19 pandemic spreading across the country, the Government of Nepal (GoN) implemented a number of prohibitive and restrictive measures in order to prevent and control the pandemic. In this regard, the meeting of the high-level coordination committee for the prevention and control of COVID-19 in Nepal held on March 18, 2020, announced the cancellation of the ongoing and scheduled examinations at all levels as well as the shutdown of education institutions with immediate effect. The shutdown of schools and colleges in Nepal owing to the COVID-19 pandemic affected a total of 8, 796, 624 learners (approximately 9 million) as of June 29, 2020 (UNESCO, 2020). According to UNESCO, approximately 958, 127 (11%) were pre-primary learners, 3, 970, 016 (45%) were primary, 3, 463, 763 were secondary (40%) and 404, 718 (5%) were tertiary learners.

The GoN instituted a nationwide lockdown on March 24, 2020, that lasted until July 21, 2020, in order to enforce severe non-pharmaceutical interventions. As a result, public mobility and movement were restricted unless necessary. International flights and public transportation were grounded. Likewise, the businesses of essential items were allowed to operate but in a regulated manner. Furthermore, these actions resulted in the closure of industries, art, and entertainment, cultural and sports programs, religious sites, and more. Due to the rising number of cases, a second lockdown (known as lockdown 2.0) was enforced on August 18, 2020, lasting more than a month. As the second wave of COVID-19 pandemic looms in Nepal and across the South Asian region in March/April 2021, the GoN enforced lockdown (lockdown 3.0) in most of the country's districts on April 29, 2021.

As the COVID-19 pandemic progressed, its effects on society's social, economic, and environmental domains become more pronounced. As a result of the economic impact, various analyses anticipated that Nepal's Gross Domestic Product (GDP) growth will decline in the upcoming fiscal year.

For instance, the Central Bureau of Statistics (CBS) (2020) forecasted the economic growth rate of 2.27 percent for the fiscal year 2020/21, which is significantly lower than the 6.75 percent economic growth rate in the fiscal year 2019/20. It is widely reported that the complete and partial shutdown of businesses, enterprises, and industries, particularly owing to nationwide lockdown, caused increased job losses and unemployment across the country. "Between 1.6 and 2.0 million jobs are likely to be disrupted in Nepal as a result of the current crisis, either through outright job loss or reduced working hours and wages" (ILO, 2020, p. 1). In Nepal, the pandemic has had a greater impact on the areas of accommodation and food; arts, entertainment and recreation; and transport and storage (UNDP, 2020).

The impact is more severe in the tourism sector, which is one of the primary pillars of the Nepali economy and contributes significantly to balancing the foreign currency. According to the World Travel and Tourism Council (WTTC), the travel and tourism sectors contributed 6.7 percent of GDP in Nepal in 2019 and which dropped to 3.6 percent of GDP in 2020 (WTTC, 2021). The GoN has even canceled its much-publicized tourism campaign 'Visit Nepal 2020'. As a result of the pandemic, "tourist arrivals in Nepal in 2020 were about 80 percent lower than prior years" (p. 7), and "the earnings from tourism sectors in 2020 were also decreased by almost 73 percent in comparison to the last year" (MoCTCA, 2021, p. 69). In addition, employment in the travel and tourism sectors dropped by almost 20% in 2020 compared to 2019 (WTTC, 2021).

Nepal experienced the worst migration catastrophe in modern times as a result of the regional and worldwide spread of the COVID-19 pandemic. Images of labor migrant workers returning home on foot and waiting in huge lines to enter Nepal on the India-Nepal border flooded the print and broadcast media, as well as social media. How many Nepali migrant workers in foreign countries will come home? Approximately 20-25 percent of Nepali migrant workers abroad are likely to come home because of pandemic-related company closures (NAFEA, 2020). Because of the porous and open border between the two countries, as well as the absence of accurate statistics of Nepali migrant workers employed in India, it is difficult to quantify how many Nepali migrant workers lost their jobs and returned to Nepal from India. The likely impact of pandemics on mental health, which is exacerbated by the fear

of infection, cannot be overlooked when trapped within the home. Since the COVID-19 pandemic, the prevalence of mental disorders, such as depression and anxiety, is projected to rise, and those with mental health illnesses and psychosocial disabilities are especially vulnerable (WHO, 2021).

Various studies predicted that the pandemic would have a negative impact on food security in Nepal, which was already under lockdown. In April, the World Food Programme (WFP) and the Ministry of Agriculture and Livestock Development (MoALD) conducted an assessment in 62 districts (out of 77) of Nepal using mobile Vulnerability Analysis and Mapping (mVAM) tool, concluding that "as demand is reported low and commodities availability is insufficient in large parts of the country, households in these areas may face challenges in securing adequate food and essential items, if the current situation of COVID-19 pandemic continues" (WFP and MoALD, 2020, p. 1). On the plus side, city dwellers could experience a clean blue sky and improved air quality as a result of the nationwide lockdown, which reduced air pollution from anthropogenic sources. Nonetheless, a clear blue sky and a breathtaking view of the Himalayas from their home rooftop made Kathmanduits nostalgic. In this regard, a comparative assessment of atmospheric Nitrogen Dioxide (NO2) density in four cities: Delhi, Dhaka, Kathmandu, and Lahore for January (before COVID-19 lockdown measures were implemented) and April 2020 (during the lockdown period) showed that there is a significant decline of atmospheric NO2 in all cities in April 2020 (Pradhan et al., 2020).

Opportunity for alternatives

It is generally stated that the crisis in disguise provides an opportunity for societal transformation. The pandemic's experiences and lessons are thought to have the potential to enhance technology-driven education and the digital economy in the future. Despite the digital divide, educational institutions have utilized online teaching and learning methods in order to resume educational programs during the pandemic. Soon after the declaration of lockdown, the Ministry of Education, Science and Technology (MoEST) formed a high-level committee to deal with the pandemic specifically focusing on developing strategies on the continuance of educational activities. Mid-West University (MU) was an active member of the committee and it played an important role in designing and implementing student learning facilitation. Besides

undertaking public awareness campaigns, production of sanitizers and distribution to local people and preparation of isolation centers, MU formed Combat COVID-19 MU Expert Group to enhance its activities in dealing with the disease and continuance of academic activities (Neupane et al 2020).

The GoN-MoEST prepared and disseminated an alternative system guideline 2020 in order to promote online learning in schools. Universities, on the other hand, have developed their own set of rules for implementing the online learning system. In its maiden attempt, the Mid-West University not only organized online classes (using Zoom) but also conducted all examinations rescuing the academic year loss of the students. Another transformative opportunity is e-shopping, digital transactions and the e-commerce boom during the pandemic. Despite the hurdles of government policies, the businesses of online shopping companies like Infi Store, Daraz, and Sasto Deal have seen unprecedented growth during the pandemic (Sijapati, 2020).

In light of the pandemic's consequences on the three pillars of Sustainable Development Goals (SDG): social, economic, and environmental, Nepal is expected to struggle to meet SDG targets by 2030. What does the future hold for SDG in Nepal? Similarly, the pandemic has made it difficult for Nepal to achieve its national goal of transitioning from a Least Developed Country (LDC) to a middle-income country by 2030. From there, we came up with the concept of hosting a COVID-19 pandemic webinar series and releasing the results. The fact that what should be the function of academic institutions at this hour of the pandemic bolstered our effort to hold the webinar series. What role may an academic institution play in Nepal's pandemic-fighting efforts? What role can it play in reaching SDG targets and realizing the national dream of LDC graduation? The straightforward answer is that academia should contribute by creating and disseminating knowledge, which is eventually required for the development of effective strategies. Another pertinent question is, 'how should an academic institution continue to educate and update students about contemporary issues and concerns?' This is done through seminars, workshops, and panel discussions during regular class hours.

MICD-MU Initiative of Webinars

In the midst of nationwide lockdown, the Master in International Cooperation and Development at Mid-West University (MICD-MU) core academic team held regular meetings via the virtual platform of Skype group video chat to consider various ways to keep academic activities going. The team also organized consultation meetings with MU officials, faculty members, and graduate students through Skype group video chat in order to receive thoughts and proposals for designing and implementing an alternative learning approach during the pandemic. The need, importance as well as objectives (as outlined in the preceding paragraph) of having the MICD-MU webinar series in the COVID-19 pandemic were identified through a series of meetings and discussions. In the meantime, the MICD-MU office obtained a Zoom video communication account from the MU central office, which led to a transfer from Skype to Zoom. Zoom is a dependable and better cloud platform for video and audio conferencing. So, all of the webinars took place using Zoom's virtual platform for video communication.

The COVID-19 pandemic webinar series was organized from May 04, 2020, to February 09, 2021. Eleven webinars were held in total, covering all three SDG pillars (See Table 1.1 for more details about the webinars). Altogether 37 experts representing 11 universities and institutions attended the webinars and contributed as key speakers while over 600 university faculty members and researchers actively participated in the discussions. The webinars followed a similar pattern and format, with opening remarks from invited dignitaries, expert presentations, and participant discussions. So, it usually consisted of four sessions: an opening session, a presentation session, a question, and answer session, and a closing session. The webinars were all recorded. The outcome of the webinar was published as a summary report on the MICD-MU website. Similarly, the extensive presentations and in-depth discussions held on the contemporary issues and topics of the webinars benefitted faculty members and graduate students intellectually.

Table 1.1

Details of the Webinars organized by the MICD Program of Mid-West University during the COVID-19 Pandemic

Details	Number	Notes
Webinars	11	---
Experts Involved	37	Representation from Bangladesh, China, Colombia, Italy, Kenya, Nepal, Thailand, and USA.
Affiliated Universities of the Experts	11	Arizona State University- US, Asian Institute of Technology-Thailand, East-West University- Bangladesh, Huazhong University of Science and Technology (HUST)-China, Kathmandu University-Nepal, Kenyatta University-Kenya, Mid-West University-Nepal, Tribhuvan University-Nepal, Universidad de San Buenaventura-Colombia, University of Florida-US and University of Pavia-Italy
Participants	More than 50 participants (in an average)	Representation from Bangladesh, China, Colombia, India, Italy, Kenya, Malawi, Nepal, Spain, Thailand, USA, and Venezuela.
The total duration of the webinars	282 days (9 months, 6 days)	The duration includes the dates between May 04, 2020, and February 09, 2021. Several activities were performed during this period, such as (i) identifying relevant topics and issues of the webinars, (ii) identifying experts, (iii) drafting and finalizing necessary documents like schedules, profiles, and official invitation letters, (iv) inviting experts and participants, (v) holding the webinars, (vi) Reviewing and providing feedback on the concluded webinars, and (vii) finalizing and disseminating the summary report.

This volume is a compilation of the contents of the webinars organized by the MICD program. We used a word-by-word transcription method to transcribe the recordings. Some of the recordings were lost due to technical difficulties. In this situation, we prepared the content of that specific webinar based on a summary report as well as notes we took during the webinar. The transcripts were then edited in order to ensure a book-like reading experience. MICD-MU decided to publish this volume with two main objectives: (1) to contribute to national efforts to combat the pandemic through knowledge creation and dissemination; and (2) to educate and update graduate students about contemporary issues, problems, and concerns that the world is facing.

The chapters in the proceedings have been arranged according to the date of the webinar organized, which means the initial webinar earned the initial chapter. The title of the chapter is the same as that of the webinar. Overall, the chapters cover four themes: assessment of the pandemic's effect, such as tourism, food security, public health, education, and so on; evaluation and examination of the efforts and initiatives of the responsible agencies; lessons learned from the pandemic; and suggestions and recommendations to ensure better strategies and efforts to combat the COVID-19 pandemic. The contents, however, are not confined to Nepal but also include experiences and lessons from Bangladesh, China, Colombia, Italy, Kenya, the United States, and the global case. The origins of the figures included in this volume are the screenshots of the power-point presentations by the presenters from the webinar recordings.

We identified three potential outcomes from the publishing of this volume. To begin with, the volume may aid policymakers in revising existing policies and strategies, as well as devising new ones, in order to deal with the impacts of the pandemic. Second, the method adopted to continue the academic activities and programs going during the pandemic would be valuable lessons in how to deal with crisis-related challenges in the future. Third, graduate students' active academic activities during the pandemic would be the most valuable assets for their future professional lives. Technical difficulties arose as a result of evolving skills in using technology for learning and poor internet connections, which posed a difficulty throughout the process.

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Webinar One

Tourism Ambitions and COVID-19 Pandemic

MICD-MU organized the first webinar entitled "Tourism Ambitions and COVID-19 Pandemic" on May 04, 2020. The event was graced by the newly appointed Vice-Chancellor of MU, Professor Dr. Nanda Bahadur Singh. There were more than ninety attendees including academicians, officials, experts, practitioners, and graduate students. Taking interest at the time of the pandemic, the participants represented four continents: Africa, Asia, Europe and North America of the world. The virtual seminar had three invited speakers sharing their views on the topics followed by a question and answer session.

At the outset, moderating the webinar Dr. Dinesh R. Bhuju, Hon. Professor and Academic Head of MICD-MU warmly welcomed the invited speakers, guests and participants. He highlighted the need and importance of organizing the webinar in this hour of the COVID-19 pandemic. He emphasized the pandemic will definitely have social, economic and environmental impacts on society and tourism is the one that will mark the highest impact. In this regard, he depicted the uncertain future by putting the question on the floor- what will happen in the post-COVID-19 pandemic world is still not clear?

Delivering his opening remarks, Professor Dr. Singh thanked the organizer for bringing the attendees from four continents in one virtual room in order to brainstorm on 'Tourism ambitions and COVID-19 pandemic' which is very important and timely in the context of Nepal. Sharing the statistics of Tourism in Nepal, he said Nepal had to postpone the Visit Nepal 2020 that aims to welcome two million tourists because of the outbreak of the COVID-19 pandemic across the country and the world. Moreover, he accentuated the 'natural and cultural/ethnic diversity of Nepal' while attracting more tourists in the country, and also presents a proper place for research including on the impact of the pandemic.

Invited speaker Dr. Dhanajaya Regmi, Chief Executive Officer (CEO) of the Nepal Tourism Board (NTB), discussed the ongoing plans and actions of NTB during the pandemic. NTB has successfully rescued five thousand and five hundred stranded tourists of sixty countries in Nepal and supported them to

return back to their home country safely. The board is currently collecting data and information from the concerned bodies in order to devise the appropriate response strategy and is trying to establish collaboration with I/NGOs to revive tourism in Nepal. As the tourism industry employs a considerable number of people in Nepal, the main priority of the tourism officials, at the moment, is how to retain the jobs in the industry. The CEO highlighted the tourism revival strategies as follows:

- Domestic tourism promotion: NTB is lobbying with the government to include the actions and allocate the resources to increase internal tourism in the upcoming budget and policy of the Nepal government. For this, NTB is proposing the Nepal government to allow at least 10 days travel holidays to the working population. This will ensure a surge in internal tourism.
- Remain ready to jump into the international market as soon as the WHO announces the world is safe from the pandemic. In this regard, the first priority of the tourism sector of Nepal will be to host Chinese and Indian tourists.

Lead presenter of the webinar, Dr. Brijesh Thapa, Professor in the Department of Tourism, Hospitality and Event Management at the University of Florida-US said that tourism is one of the main pillars of the Nepali economy and has almost nine percent contributions to the National GDP. Moreover, tourism employs a considerable number of Nepali youths across the country. He shared the pertinent questions that the tourism sector has been facing in the contemporary world which is equally important in the context of Nepal - "If you build it, will they come?" "Are they coming to your destinations?" In this regard, the government has to focus on the right product and the right place. Dr. Thapa identified the areas that the Nepali government needs to invest/focus in order to boom the tourism industry: improve and develop infrastructure, ensure better connectivity, increase mobility, guarantee the safety and security of the tourists and tourism industries and integrate Information and Communications Technology (ICT) in tourism. At this time of the pandemic, he threw the question on the floor: How does Nepal guarantee the idea of safety to the tourists? This is related to consumer demand as the tourists want to travel and return back to home safely and securely. Elaborating on the COVID-19 pandemic affected the human psychology that goes beyond

tourism; Dr. Thapa provided suggestions to the Nepali government to revive the tourism industry. They are:

- The government needs to immediately work on developing a resilient planning approach that should be participatory. For this, the Ministry of Culture, Tourism and Civil Aviation and NTB are responsible government agencies.
- High-level tourism recovery task force should be formed. The private sector should be included from the beginning of the process. Therefore, the core principle of the task force should be a public-private partnership.
- Tourism has never been the same. This is a resilient industry. The question at the moment is 'how does Nepal move from survival to revival'. Better strategies are essential. The best practices and lessons learned across the world should be the first steps to start with.
- Nepali tourism needs to adjust with the 'New Normal'. What is the plan for the new normal? In the time of the pandemic, the concerns of public health and safety will be the top priority of the tourists. Nevertheless, Nepal is placed in the 106th position out of 140 countries in the health and hygiene index of tourism in the globe.
- Short-term vacations and trips should be planned for the survival of the tourism industry.
- Domestic travel and tourism should be the immediate preferences.
- ICTs must be used for the marketing strategy in the post-COVID-19 context.

Invited commentator of the webinar, Dr. Gian Battista Parigi, Professor of Department of Diagnostic Pediatric, Clinical and Surgical Science and President of Center for International Cooperation in the University of Pavia (Italy) began his presentation by saying "I am not a tourism expert but a health surgeon. I am a good traveler and tourist". He shared the tourism statistics of Italy and briefed how the COVID-19 pandemic has been affecting the tourism industry in Italy. Dr. Parigi updated Italy's initiatives to support the tourism sector as follows:

- Leave and extra allowances
- Protection and social shock absorbers
- Support for business
- Voucher for travel agencies and accommodation facilities

- Reviving the image of Italy in the world

Likewise, Dr. Parigi listed the keywords that the tourism sector in Italy is currently familiar with:

- Resilience
- Staycation (stay around the home)
- Under tourism
- Individual trips
- Digital planning
- Responsible travelling
- Poor tourism

In the final session of the webinar, Professor Thapa and Professor Parigi responded to the queries of the participants. Before conclusions, Mr. Rabin Malla, Program Coordinator of MICD-MU proposed a Vote of Thanks.

Webinar Two

Securing Foods amidst COVID-19 Pandemic

A webinar on "Securing Foods amidst COVID-19 Pandemic" was organized by MICD-MU on May 18, 2020. This was the second virtual forum of the MICD-MU webinar series in the COVID-19 pandemic. There were more than 100 attendees including academicians, MU officials, experts, practitioners, and graduate students. The invited experts shared their ideas, knowledge and experiences in the various aspects of food security during the COVID-19 pandemic and responded to the queries of the participants. The webinar included an opening session, panel discussion session and question and answer session.

Opening Session

At the outset, moderating the webinar Dr. Dinesh R. Bhuju, welcomed and thanked guests, experts and attendees for assigning their precious time to grace the occasion. Dr. Bhuju stated that the COVID-19 pandemic is not just a health issue now. This pandemic makes us understand how health issues are interrelated with social, economic and environmental issues of the globe. Presenting the statistics, Dr. Bhuju updated that around 195 million people have already lost their jobs due to the pandemic across the world. According to the WFP, 265 million people will suffer from acute hunger by the end of 2020. Increased negative impacts have already been seen in the agriculture sector and cultivable land due to the pandemic. In this context, the moderator threw a question that will guide the panel discussion as "how do we guarantee food security in this pandemic?". Elaborating on the design of the event, Dr. Bhuju said the panel discussion will have two segments. First, the speakers will shed light on the scenario/context of food security in the time of COVID-19 at the global, regional and local levels. In the second segment, the panelists will discuss what should be done to address the problems caused by the pandemic at the local level based on good practices and success stories.

Delivering his opening remarks, Professor Dr. Singh explained that the food crisis caused by the pandemic has two dimensions- supply and demand. In the supply dimension, the global, regional and local food supply chains have been

disrupted because of lockdown inside and outside the country. Furthermore, food production has been reduced because of labour shortage as well as seeds and manure shortages in the market triggered by the pandemic. Regarding the demand side, panic buying of essential items has resulted in food deficiencies in the market. Similarly, household income has been reduced because of lockdown which results in difficulty on accessing the food especially by poor people and daily wage workers of the society. Dr. Singh shared the key findings of the WFP report on food security in Karnali province of Nepal published in June 2019. According to the report, there is 37% of food deficiency in mountain areas of Karnali and 29% of food deficiency in hill areas of Karnali. Likewise, the planning commission of Karnali estimated that 23.5 thousand Metric Tons (MT) food deficiency exists in the Karnali province. Elaborating gloomy years, Dr Singh portrayed an uncertain future by putting the question on the floor as- what will happen to Karnali with regard to food security during the pandemic? He suggested timely and proper policies and programmes are necessary to deal with the negative impacts of the pandemic in food supply and agriculture.

Panel Discussion Segment I: Context/Scenario

Discussing the global context of food security during the pandemic, invited speaker Dr. Netra Chhetri, Professor at Arizona State University (US), said that there is low food production happening in the contemporary world because of the delink between labour force and capital. He presented the statistics of 135 million people facing extreme hunger in January 2020 that will reach 265 million people by the end of 2020. Almost three dozen countries will face this problem of acute hunger. Moreover, the cumulative effect of climate change, labour shortage, technology crunch plus COVID-19 pandemic will force millions of people to suffer from extreme hunger in the upcoming days, Dr. Chhetri said. How? Reduced income and job loss will put a hurdle in accessing food by people. The situation is worrying to Nepal because the country is highly dependent upon remittances as there are increasing reports about the reduced wages and job losses of Nepali migrant workers aboard. On the other hand, the disruption of the food supply chain also increases hunger. At the moment, there are, therefore, two crises in the world: pandemic and hunger. Dr. Chhetri summarized the risks for the global food supply as:

- Labour shortage

- Restrictions on food imports/exports
- Climate change
- Shifting of priorities to mitigate the effects of the pandemic

The panelist Dr. Sarba Raj Khadka, Chair of Food-First Information and Action Network, discussed the South Asian scenario of food security during the pandemic. Saying South Asia will witness a low economic growth rate, he shared the World Bank (WB) projection of the region will mark 1.8 to 2.8% or even lower economic growth rate in 2020. This will certainly have repercussions in the livelihood of South Asian people. Tourism-dependent countries like Maldives and Nepal will face a crippling situation in the upcoming days as a result of the massive decline of the arrival of international tourists in these countries. This will directly or indirectly affect food security in South Asia. Inequality, discrimination and marginalization will go up in the future in the region. As a result of the closure of industry and business, Dr. Khadka said urban to rural migration has increased causing a food crisis in the rural areas of South Asia. Because of the COVID-19 pandemic, the business of street vendors has been discouraged and disrupted whilst super market and digital buying is increasingly being promoted. Dr Khadka emphasized this has resulted in limited access of farmers to the market. He said the pandemic knocked South Asian doors in the time of wheat harvesting and paddy sowing season that might reduce the production and cause a food crisis for a longer period.

Briefing the context of Karnali province, the panelist Professor Dr. Punya Regmi, Vice-Chair of the Planning Commission of Karnali province, mentioned that the province witnessed 8.225% GDP growth rate in the fiscal year of 2075/76 i.e. the highest growth rate among seven provinces of Nepal. At the national level, Nepal saw 6.99% GDP growth rate in that fiscal year. Due to new provincial and local government setup across the country, the highest growth in Karnali was possible as people could access the government at their doorsteps. Dr. Regmi updated that the planning commission of Karnali has projected 3.45% of economic growth rate in the province in the ongoing fiscal year which is still higher compared to the national economic growth of 2.28%. This decline in the growth rate is caused by the COVID-19 pandemic. Professor Regmi updated the food storage survey conducted by the planning commission after the outbreak of the COVID-19 pandemic in ten districts of

Karnali. According to the survey, the mountain districts of Karnali have food deficiencies whilst hill and inner Terai districts like Dailekh, Rukum, Salyan, and Surkhet have food surplus. There is approximately 23.5 thousand MT food deficiency in the province. Explaining climate variations in the province, Dr. Regmi suggested the province needs more research on which crops should be grown so that the production will be increased. Climate change is hindering food production and availability in Karnali, he said.

Panel Discussion Segment II: Addressing the Problem

In this segment, the moderator Dr. Bhuju planted the question on the floor to lead the discussion as "how do we address the present situation at the local level or farmer level?".

In line with the question, Dr. Chhetri began by calling science and technology that does not work properly at the local level or farmer level as junk science and technology. So, science and technology must address the needs of farmers or local people. Dr. Chhetri provided a couple of suggestions to address the current situation at the local and farmer level are:

- Investment in science-based solutions combined with community-led solutions
- Ensure good social safety nets i.e. strong enough to cope with the pandemic
- Supporting the most vulnerable populations via safety net programs
- Attain competent innovations: Agriculture innovations must not only improve the existing farming practices but should compete with other investment opportunities. This is important that people will see a future in agriculture.
- Agriculture should be linked or tied up with the social and economic policy of the state which will help to lift the farmers out of poverty.
- Farmers are demoralized in society. The prestige and value of farmers are lacking. Every parent wants their children to be a doctor, engineer or else. Nobody recommends farming or agriculture profession. Not a single book of school kids describes farmers and their good works.

Stating agriculture is the backbone of the rural economy, Dr. Khadka discussed the silver lining in the present crisis as the countries are moving towards self-reliance because of the COVID-19 pandemic. His suggestions to address the

problems at the local level are:

- Ensure adequate social safety net measures
- In order to increase production, agricultural innovation is necessary. Innovation is also essential to deal with other problems such as shrinking cultivable land, resources crunch and climate change.
- Necessity of research and development in agriculture (here MU engagement is crucial)
- Achieve farmer centered plans, policies and programs
- As people are returning back to the village because of the pandemic, it is suggested to better utilize their knowledge and skills acquired in urban settings and foreign land. The government should make plans and programs to attract returned migrant workers towards agriculture.
- Initiate activities to promote the local food supply system rather than global food supply system.
- Ensure government subsidy and crop insurance in order to become self-reliant and to compete with foreign agriculture products especially of India.

Discussing the role and work of WFP in the distribution of food across Karnali province, Dr. Regmi pointed to the need and necessity of increased production of local crops and harvests rather than relying upon imported fortified rice. The province has huge production potential of its traditional nutritious food such as black rice, Marsi rice, buckwheat, barley, Kodo millet, bean and so on. Similarly, the region has the potential of goat farming, sheep farming, fish farming and beekeeping. In this regard, Dr. Regmi suggested promulgating the appropriate plans, policies and programs for the promotion and encouragement of local food production in the province. Other general suggestions that Dr. Regmi provided are:

- Focus on research and development: In this regard, MU should take the lead. It should start launching the Institute of Mountain Agriculture. The provincial government must allocate a budget for the agriculture research Centre in Karnali.
- Develop land use plan for the province
- Policy required to graduate small farmers to medium farmers
- Special packages are necessary for poor farmers

Question and Answer Session

In the first round of this session, the essence of questions raised by the participants included: what are the suggestions of experts to guarantee the investment in agriculture farming? Where and why is the problem of achieving a bottom-up approach?

Response by Prof. Regmi: In order to guarantee the investment, a couple of initiatives are necessary such as the provision of crop insurance and agriculture subsidies and incentives. Bottom-up approach is necessary in agriculture and the government must plan accordingly to achieve this.

Response by Dr. Khadka: The government agencies and related stakeholders should develop farmer-centered plans, policies and programs. Farmers should be treated with dignity and people should respect them.

Response by Dr. Chhetri: We need to energize the farmers and have to connect them to the market value-chain in order to sustain and improve agriculture production and farming. We need to guarantee farmers' active involvement in the planning process.

In the second round of this session, the essence of questions raised by the participants included: why could agriculture not contribute much to the national GDP? How important is food diversity and peoples' choice? What is the expert view with regard to sugarcane farmer's protest to get their price?

Response by Prof. Regmi: Agriculture is considered to be not profitable or beneficial business and profession. So, we need to focus on modernizing agriculture and crop diversification. Priority should be paid on local corps and yields.

Response by Dr. Khadka: Cooperative and collective agriculture farming will help to increase GDP contribution by agriculture.

Response by Dr. Chhetri: The case of sugarcane farmers is a policy failure. If this had happened in the US, the government would have intervened directly. What I learn here in Arizona State University is the importance of "the power of narrative" in promoting local foods. If we could make a narrative of a particular food and repeat it again and again in the market, then that will become the dominant narrative in the global food market. This will ensure the entry of particular food in the people's dishes.

Webinar Three

Health Lessons: Decoding COVID-19 in Lombardy and Wuhan

A webinar on "Health Lessons: Decoding COVID-19 in Wuhan and Lombardy" was organized on June 01, 2020, which was the third virtual panel discussion of the MICD-MU webinar series in the COVID-19 pandemic. There were more than 60 attendees including academicians, diplomats, faculty members, medical experts and practitioners, and graduate students. The invited two distinguished experts: Dr. Gian Battista Parigi, Professor at the University of Pavia, Lombardy, Italy and Dr. Gaurab Pokhrel, Post-doctoral Research Scholar at Tongji Medical College, Wuhan, China shared their ideas, knowledge and experiences being a frontline health warrior in Lombardy and Wuhan during the pandemic and responded to the queries of the participants.

In the beginning, Dr. Dinesh R. Bhuju, moderator of the webinar, discussed the commonalities and differences between two cities: Lombardy and Wuhan of Italy and China respectively. He said the webinar is aimed at exploring the answers to a question- "how was it possible to limit and control the spread of COVID-19 pandemic particularly in Wuhan and Italy?". Meanwhile, Professor Dr. Nanda Bahadur Singh, during his opening remarks, reaped the immense importance of genomic science, genetic code, nucleic acid code and biochemistry for understanding and deciphering the COVID-19 pandemic in the contemporary world. He illustrated that the traditional Silk route did only not facilitate the trade between China, Nepal and Italy but also propped up the exchange of genes among the population. So, these three countries are connected through the occurrence of gene mutation as well.

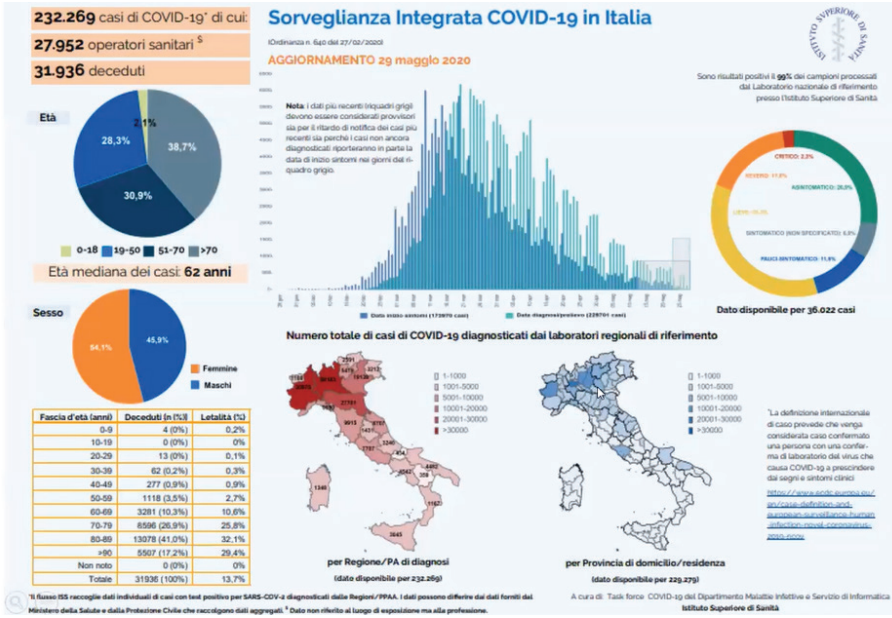
4.1 Health Lessons: Decoding COVID-19 in Lombardy by Professor Dr. Gian Battista Parigi[1]

On May 29, 2020, there were 232, 269 infectious cases and 31, 936 fatalities of

1 Dr. Parigi is a Professor of the Department of Diagnostic Pediatric, Clinical and Surgical Science and President of Center for International Cooperation in the University of Pavia (Italy).

COVID-19 pandemic all over Italy. The bar graph in figure 4.1 shows that the number of infectious cases is gradually decreasing. More cases of the pandemic were reported in the northern region of the country, where Lombardy is located. The region is highlighted by the red colour in the map in figure 4.1 to show the highest cases in Italy. The pandemic had spread from North to South as the migrant workers returned back to home because of nationwide lockdown. Nevertheless, the industrialized region, north, welcomes and offers jobs and works to the people of the southern region.

Figure[2] 4.1 : Sorveglianza Integrata COVID-19 in Italy



Fascia d'età (anni)	Deceduti (n (%))	Letalità (%)
0-9	4 (0%)	0,2%
10-19	0 (0%)	0%
20-29	13 (0%)	0,1%
30-39	62 (0,2%)	0,3%
40-49	277 (0,9%)	0,9%
50-59	1118 (3,5%)	2,7%
60-69	3281 (10,3%)	10,6%
70-79	8596 (26,9%)	25,8%
80-89	13078 (41,0%)	32,1%
>90	5507 (17,2%)	29,4%
Non noto	0 (0%)	0%
Totale	31936 (100%)	13,7%

38.6% of the total infectious cases of Italy belonged to Lombardy. Why is Lombardy highly infected? There are two reasons behind this. First, the population density is higher in Lombardy compared to other parts of the country. Lombardy has an area of 23.84 Sq. Km where 10, 088, 484 people

2 The sources of all the figures, where not mentioned, included in this volume are the screenshots of power-point presentation by the presenters from the recordings of the webinars.

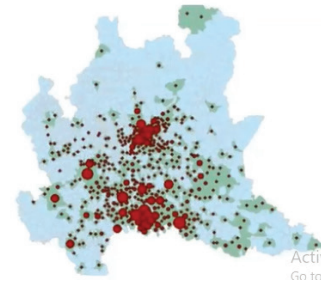
dwell. Second, it is a commercially vibrant as well as economically advanced region of Italy, which has closer ties and augmented economic interactions with China. How did Italy respond when the pandemic broke out in Wuhan at the beginning of January? The Italian government closed the direct flights with China but did not close flights with other countries, such as Germany that had continued direct flights with China. This is the way Italy was connected with China in the early days of the pandemic amidst the threats of transmission across the borders and which eventually brought the pandemic into Italy. According to the researchers, the COVID-19 pandemic arrived in Italy, specifically in Lombardy, just a month before the first official case was detected in Italy on February 21, 2020. This means the coronavirus was already going around in Lombardy in mid-January. Where was it in Lombardy? It was the Bergamo, one of the worst-hit areas of Lombardy, that has closer commercial and industrial ties with China. It is believed that one of the reasons for the outbreak of the COVID-19 pandemic in Italy is that the authorities responded late to close the Bergamo after the initial cases were reported. What does this mean? Social distancing is the only effective weapon that mankind has against the COVID-19 pandemic. So, there is no therapy or medication available except separating each other.

Figure 4.2 : Cases and Fatalities in Lombardy and Nepal

147.181 km² 30,327,877 inhabitants

- 1.572 cases in total
- 8 deaths

23.844 km² 10.088.484 hab.



- 87.801 cases in total
- 24.037 patients (175 intensive care, 3.626 hospitalized, 20.236 home isolation)
- Deaths 15.954
- Recovered 47.810

The Policlinico San Matteo, where I work, founded in 1449, is the teaching hospital of the University of Pavia. Figures 4.3 and 4.4 present the details about the personnel engaged in the hospital as well as hospital facilities and services. At present, there are altogether 48 ongoing research projects relating to COVID-19 pandemic in the hospital and the University of Pavia. This shows that we are strictly monitoring the COVID-19 situation in Italy.

Figure 4.3 : Details of Personnel at the San Matteo, Italy

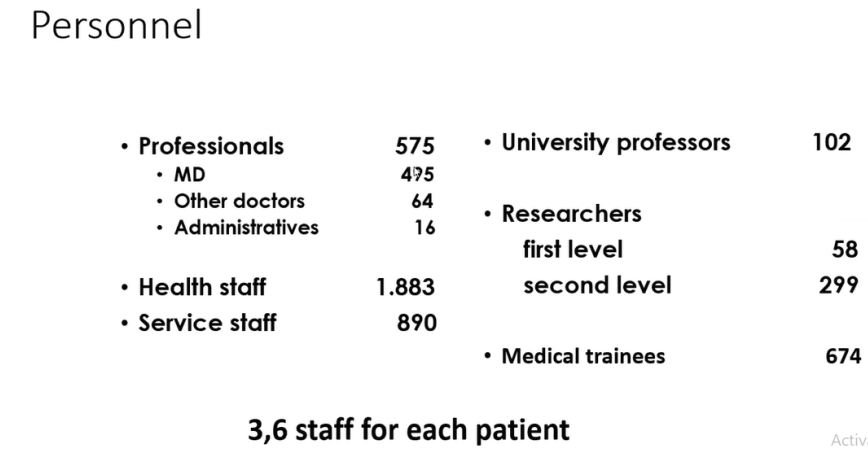
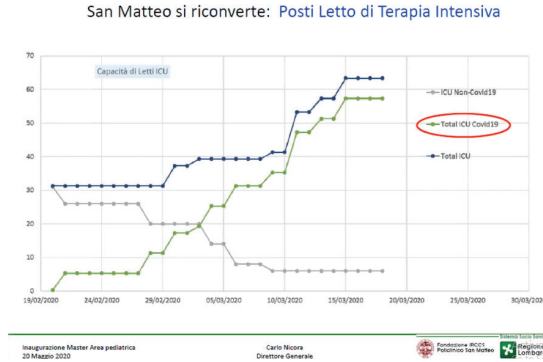


Figure 4.4 : Details of the Services of the San Matteo, Italy

As the initial cases were detected, the crisis unit was immediately activated comprising 24 chiefs of departments of our hospital because the pandemic had to be fought by well-coordinated actions of different departments. We firmly believed that the pandemic could not be defeated alone by being a virologist, epidemiologist and so on. All the mechanisms and personnel of the hospital had to work together in order to conquer the COVID-19 pandemic. For this purpose, we canceled and postponed all the activities in operation theaters as well as reduced or blocked the normal patients. However, we admitted the normal patients having an acute or chronic illness. Immediately from the first day, we separated the pathways for the patients entering the hospital into two so that normal patients and possible COVID-19 patients would follow a separate pathway to enter the hospital.

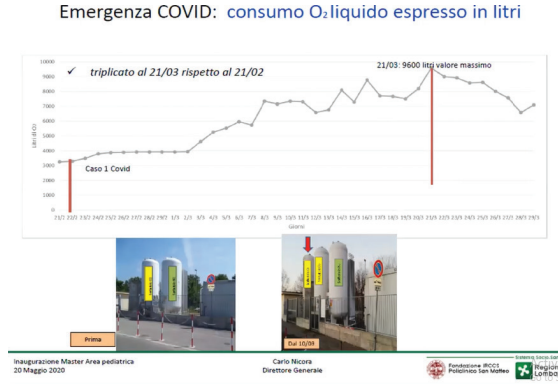
With the flooding of the COVID-19 patients into the hospital, we completely reshaped the geography of the hospital devoting many places for COVID-19 patients. The number of Intensive Care Unit (ICU) beds were doubled. These beds were increased from 32 to 66 in total. Moreover, most of the COVID-19 patients had occupied these ICU beds. One of the main problems of the pandemic is that it has increased the mortality and morbidity rate of other diseases or illnesses because people are afraid to visit the hospital fearing of COVID-19 infection. We are conducting a study on appendicitis among children during the pandemic. During the three months of the pandemic, we found that the hospital received more complicated cases of appendicitis among children because the parents were very reluctant to bring them to the hospital. Nepal should take serious consideration in this regard.

Figure 4.5 : Number of ICU Beds in the San Matteo, Italy



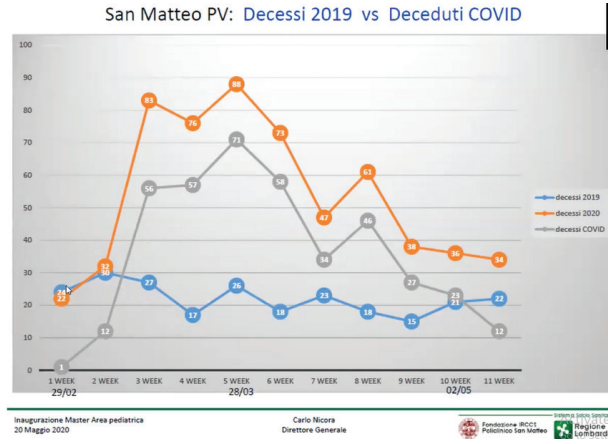
Responding to the pandemic, our hospital had increased the amount of oxygen availability by more than three times in order to meet increasing demand. At the beginning of the pandemic, the oxygen consumption was 3000 litres per day which increased to 9600 litres per day as of March 2020. Also, the hospital administered oxygen to the patients via a standard helmet.

Figure 4.6 : Oxygen Consumption in the San Matteo, Italy



The number of casualties has substantially increased with the pandemic in the hospital. The hospital saw a three to four times increase in the casualties rate compared to the pre-COVID-19 era. The mortality rate in ICU is in the range of 30-40% of those who are admitted to ICU.

Figure 4.7: Number of Casualties in the San Matteo, Italy



4.2 Health Lessons: Decoding COVID-19 in Wuhan by Dr. Gaurab Pokhrel[3]

I have been living in China Since 2005. During the outbreak of the COVID-19 pandemic, I was associated with Tongji Hospital of Tongji Medical College affiliated to Huazhong University of Science and Technology (HUST) located at Wuhan. Today, I am going to present my topics divided into two sections. First, I will briefly introduce this beautiful city of Wuhan to everyone, which was very much unknown before the pandemic but the outbreak of the pandemic has brought this city into the world headlines. Second, I will briefly share my experience of how it was when the COVID-19 was rapidly infecting people in the entire city of Wuhan.

Wuhan is the capital city of Hubei province of China. It has an area of 8494.41 Sq. Km. It is the 42nd biggest city in the world and as big as London. It hosts a population of 10 million people. Wuhan city is the center for economy, trade, finance, transportation and information technology (called optic valley). The major industries that it housed include optic-electronic, automobile manufacturing, iron and steel manufacturing and pharmaceuticals. The five car manufacturers are seated there, notably- Citroen, DFM passenger vehicle, Dongfeng Honda, Dongfeng Renault and Shanghai GM. Wuhan has welcomed the foreign direct investment from eighty countries.

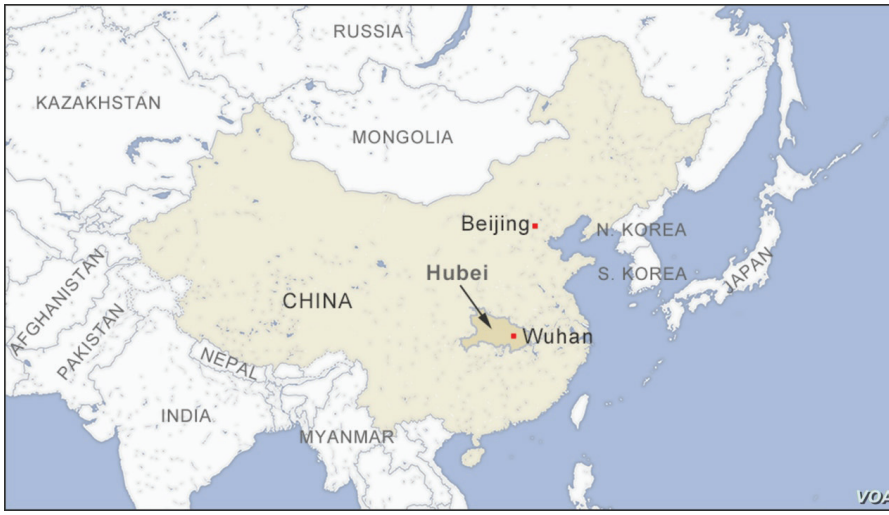
Wuhan is also a leading educational and medical hub for China. There are eight national universities like Central China Normal University, HUST, Wuhan University and Wuhan University of Technology. It has more than 35 tertiary hospitals including Tongji hospital, where I work. Tongji hospital has sixty-two different departments and receives five million outpatients per year. Furthermore, it has more than seven thousand beds and conducts more than 300 major operations per day.

Everyone is very curious as to why and how this COVID-19 pandemic spread so quickly in and outside China. One persuasive answer may be because of Wuhan's strong and extended network of transportation systems in and outside the country. For instance, Wuhan offers direct flights to Dubai, London, Paris, San Francisco and other major cities of the world. Moreover, it has high-speed

3 Pokhrel is a post-doctoral research scholar at Tongji hospital of Tongji Medical College, Wuhan.

railways to major cities like Beijing, Shanghai and Guangzhou. People can reach these cities within less than five hours via high-speed train.

Figure 4.8 : Wuhan Location in China's Map



Note. From Gas Explosion in Central China Kills at Least 12, by Associated Press, 2021 (https://www.voanews.com/east-asia-pacific/gas-explosion-central-china-kills-least-12). In the public domain.

Before the lockdown started, all daily medical services were in a full swing. I was also regularly involved in daily round Out Patient Department (OPD) and elective surgeries. Chinese people were waiting for the lunar New Year holiday, the longest holiday in China. Millions of people would travel for family union and it is the largest travel inside China. On January 23, 2020, the Wuhan government issued a notice calling all the transport systems including buses, metros and ferries should be stopped and no one from Wuhan should leave the city without any urgent reasons. Another big move from the Wuhan government was that they extended the Lunar New Year holidays, normally for 7 days, till February 2, 2020.

In the initial days, the infectious disease department was fully responsible to handle the cases that were admitted for flu-like symptoms. With the influx of patients having flu-like symptoms increasing day by day, the hospital

immediately started a fever clinic to deal with it. All medical staff and personnel were asked to work in the fever clinic. The hospital canceled the OPD services and began full-fledged services from the fever clinic. Moreover, it merged both internal medicine and surgery services into one big fever clinic where all the patients were treated. Medical services were moved to online where people could ask and get advice from the hospital about their illnesses.

There were various challenges that doctors and nurses faced in Wuhan city while treating the COVID-19 patient. First, the increasing influx of patients was itself a great challenge since we have not witnessed or experienced such a situation in the past. Second, there was an acute shortage of surgical masks and Personal Protective Equipment (PPE) in Wuhan. Third, although doctors knew that it was a virus behind the health crisis, we did not have any idea of the exact symptom of the illness, course of the disease and pathogenesis. We were also clueless about which medicine would be good for these flu-like symptoms.

Figure 4.9 : Use of Technology for Tracing in Wuhan, China

Drones, thermometer-cars and big data

The Wuhan government ensured all the medical and testing costs were free to all the people. It had quickly and swiftly chosen the basic public health measures of contract tracing, testing, quarantine and isolation by community mobilization and volunteers. They utilized open space like stadiums and hotels. The positive cases were either kept in the hospital or in a specialized facility such as an isolation center. The dedicated websites were there where people could log in and get related information about the flu-like symptoms.

Telephone hotlines and phone apps updated the public on the latest situation of the outbreak and medical advisories. The ministry of health also regularly sent out reminders to citizens via SMS messages. Similarly, the Wuhan government widely used social media and other online platforms to share daily updates on the situation to the public. One of the big issues that the Wuhan government faced was how to tackle the rumors and fake news.

The outbreak of pandemic in Wuhan garnered nationwide solidarity, which of course is very essential for the moral boost-up. More than 40, 000 medical workers and volunteers were rushed into Wuhan. They performed different functions such as recording temperatures, delivering food and becoming contract tracers. The support from other provinces included an influx of a large number of experts with all kinds of medical equipment and other necessary supplies. Moreover, the Wuhan government built two makeshift hospitals in a very short time, one in a week and another in ten days, adding the capacity of twenty-three hundred beds.

People could order necessary items like food, medicines and others online. The special arrangement has been ensured for chronic disease patients such as old and pregnant. The Wuhan government took care of foreign students like us. Foreign students were asked to join WeChat group in order to get daily updates and situation briefs and upload their daily body temperature.

China used all kinds of latest technology including drones, thermometer-cars and big data for contract tracing. They used social media such as Weibo, Tencent and WeChat in order to share accurate and up-to-date information on the COVID-19 pandemic.

What was the key to success in curbing the COVID-19 pandemic in Wuhan? First, the concerned bodies were acting like they were saving lives and did not think it's somebody else's problem. They thought it was their problem and were working aggressively to solve the problems by using all kinds of available resources. Second, the decisions taken were rapid based on facts and expert advice. Excellent utilization of the resources was another key to conquer the COVID-19 pandemic in Wuhan.

I would like to end my presentation with a small photo that I found on WeChat. It talks about the quarantine as: "quarantine, no human rights; no quarantine, no human left; quarantine, I see you; no quarantine, ICU".

Webinar Four

Returning Home in COVID-19 Pandemic: Labour Market and Employment

A webinar on "Returning Home in COVID-19 Pandemic: Labor Market and Employment" was organized on June 15, 2020, which was the fourth virtual panel discussion of the MICD-MWU webinar series in the COVID-19 pandemic. There were more than 50 attendees including academicians, faculty members, experts, practitioners and graduate students. The invited two distinguished experts: Mr. Yuba Raj Bhusal, Former Finance Secretary of GoN and Dr. Padma Prasad Khatiwada, Associate Professor, Population and Migration Studies, Tribhuvan University (TU), shared their ideas, knowledge and experiences in various aspects of labor market and employment in the midst of the pandemic and responded to the queries of the participants.

At the outset, the moderator Dr. Dinesh R. Bhuju said that the pandemic has immense effects on all three domains of SDG: economic, environmental and social. In the backdrop of increasing returnee migrant workers due to job losses caused by the pandemic in India and Gulf countries, he believed that this webinar will dig out the answers to several questions. What is the future of returnees back home? What is the state of job security in Nepal? What are the direct and indirect socio-economic consequences of increasing reverse migration in Nepal?

In his welcome remarks, Professor Dr. Nanda B. Singh speculated that reverse migration, if not managed properly, might trigger violence, insecurity and instability in the society. In this context, he recommended the actions to be initiated by federal, provincial and local government in order to employ the returnees back home as follows:

- Increase agriculture activities focusing on mass production
- Resume the services of the financial institutions following health protocols
- Recuperate the supply chain system
- Initiate three work shifts in the construction and hydropower or energy sector
- Employ returnees in a home area based on their skills

The first keynote speaker, Dr. Padma Prasad Khatiwada said two emerging issues need urgent actions i.e. how to retain employment and how to create new employment as youths are returning home during the pandemic. He elaborated that the migrant workers, especially from India, have been facing inhuman treatment in their route to the home. Discussing the pathetic situation of the quarantine center, Dr. Khatiwada mentioned that the society perceived the returnees as the vector of the COVID-19 pandemic that may cause mental health problems among the returnees. Out of 4, 000, 000 Nepali working in India, approximately 700, 000 have already been back to Nepal. The number will go up by another 500, 000 in the next few months. Similarly, he said approximately 250, 000 people have already been back from gulf countries. Dr. Khatiwada discussed that some of Nepali students pursuing higher education in universities abroad are also facing problems. Discussing the challenges of employment and social integration of the returnees, Dr. Khatiwada suggested the following measures to address the socio-economic impacts of the pandemic as:

- Devise specific guidelines and policies to implement the government plan of employing 800,000 youths as provisioned in the national budget for the academic year 2020/21
- Attract returnees and youths in the agricultural sector as well as other entrepreneurial activities
- Promote social entrepreneurship as well as collective farming
- Develop proper guidelines and policies to implement the concept of the food bank and land bank as provisioned in the national budget for the academic year 2020/21
- Provide soft loan to initiate the business and the enterprises
- Initiate holistic disaster management plans
- Ensure transparent and accountable governance
- Bring special packages to the women and vulnerable groups
- Create a favorable environment to enroll young students in the universities across Nepal during the pandemic
- Provide cash grants instead of relief packages
- Instigate the strong monitoring mechanism and system

The second keynote speaker, Mr. Bhusal discussed various aspects of labour market and employment in Nepal during the pandemic. His presentation

titled '*Labour Market and Employment in the Peril of the COVID-19 pandemic*' is presented below:

5.1 Labour Market and Employment in the Peril of the COVID-19 pandemic by Yuba Raj Bhusal[4]

5.1.1 Labour Market: What is it?

Labouring is a productive activity, especially for the sake of economic gain and a labour is a person engaged in such activities. Labour market, also known as the job-market, is the supply and demand for labour. It is a major component of any economy, which is intricately tied in with markets for capitals, goods and services.

5.1.2 Some facts of Migration

- In 2019, the number of international migrants is estimated to be 272 million, which is 3.5% of the global population.
- Many individuals migrate out of 'choice' while others migrate out of 'necessity'.
- Forceful displacement, about 70 million people in 2018, is also one of the contributing factors for the migration.

5.1.3 Economic Impacts of Labour Migration

Migration and remittance have positive effects on the national socio-economic development of the country. The migrants collectively sent $ 550.5 billion in money back to their home countries in 2019. Table 5.1 presents the top ten remittance recipient countries, where our neighboring countries- India and China received the highest and second-highest amount of remittance i.e. $ 82.2 billion and $ 70.3 billion respectively in 2019.

Table 5.1 : Top Ten Remittance Recipient Countries in 2019 (USD)

Rank	Country	Remittance inflows (in USD billion)	% of Nominal GDP
1	India	82.2	2.8
2	China	70.3	0.5

4 Bhusal is a former finance secretary of the Government of Nepal (GoN)

Rank	Country	Remittance inflows (in USD billion)	% of Nominal GDP
3	Mexico	38.7	3.1
4	Philippines	35.1	9.8
5	Egypt	26.4	8.8
6	Nigeria	25.4	5.7
7	Pakistan	21.9	7.9
8	Bangladesh	17.5	5.5
9	Vietnam	16.7	6.4
10	Ukraine	15.9	11.8

Note. From Mapped: The Ins and Outs of Remittance Flows, by I. Ghosh, 2020 (https://www.visualcapitalist.com/global-remittance-flows/).

Table 5.2 shows the amount of remittance that accounts for the percentage of nominal GDP in 2019. Nepal received the amount of $ 8.6 billion, which accounts for 30% of the nominal GDP in 2019.

Table 5.2 : Top Ten Remittance Recipient Countries in 2019 (% of GDP)

Rank	Country	Remittance Inflows (in USD billion)	% of Nominal GDP
1	Tonga	0.19	38.5
2	Haiti	3.3	34.3
3	Nepal	8.6	29.9
4	Tajikistan	2.3	29.7
5	Kyrgyz Republic	2.4	29.6
6	Honduras	5.3	21.4
7	El Salvador	5.6	20.8
8	Comoros	0.14	19.3
9	Samoa	0.17	18.4
10	West Bank and Gaza	2.6	17.6

Note. From Mapped: The Ins and Outs of Remittance Flows, by I. Ghosh, 2020 (https://www.visualcapitalist.com/global-remittance-flows/).

Despite increasing migration, the global unemployment rate seems on the rise, which has been exacerbated by the COVID-19 pandemic.

5.1.4 Provisions relating to the labour market and foreign employment in Nepal

The rights relating to employment and labour are included in the fundamental rights and duties of the 2015 constitution of Nepal. More specifically, article 33 of the constitution elaborates the right to employment and the provisions of article 34 states rights regarding labour. The rules, policies and programs with regard of labour market and employment in Nepal are as given below:

- National employment policy 2071 BS[5]
- Foreign employment policy 2068 BS
- Foreign employment act 2064 BS
- Right to employment act 2075 BS
- Institutional arrangements including labour counselors and labour attaches
- Prime Minister employment program
- Terai Madhesh Samriddhi program
- Foreign employment welfare fund etc.

5.1.5 Indicators of Nepal's domestic labour market

The main statistics of Nepal Labour Force Survey 2017/18 of CBS[6] (2020) regarding labour market and employment are presented below:

- Out of 29 million people, only 20.7 million, i.e. 71.5% of total, are of working age. Out of 20.7 million working age people, only 7.1 million are employed.
- The national unemployment rate is 11.4% (female 13.1% and male 9.7%)
- Young people, aged between 15 and 34, are job seekers i.e. 69.2%.
- Urban unemployment rate is 10.9%
- Rural unemployment rate is 11.6%

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5 Bikram Sambat (BS) is a widely used Nepali calendar. The BS date is approximately 57 years and 8 months ahead of the AD date.

6 CBS. (2019). Report on the Nepal Labour Force Survey 2017/18. https://cbs.gov.np/wp-content/upLoads/2019/05/Nepal-Labour-Force-Survey-2017_18-Report.pdf

- Formal sector employment rate is very low
- Karnali and Sudurpaschim province have the lowest rate of employment both in the formal as well as informal sector. Province-2 has the lowest share in the formal agriculture sector, though it is a fertile area for crops.

Figure 5.1 : Employment by Sector in Nepal

4.6.1 Employment by sector

Table 4.3 Employment by sector

Sector of employment	Male	Female	Total	Male	Female	Total
			thousands			percent
Total	**4 446**	**2 640**	**7 086**	**100**	**100**	**100**
Formal	**1 792**	**884**	**2 675**	**40.3**	**33.5**	**37.8**
Agriculture	58	32	90	1.3	1.2	1.3
Non-agriculture	1 734	852	2 586	39.0	32.3	36.5
Informal	**2 655**	**1 756**	**4 411**	**59.7**	**66.5**	**62.2**
Agriculture	595	839	1 434	13.4	31.8	20.2
Non-agriculture	2 035	869	2 904	45.8	32.9	41.0
Private households	25	48	73	0.6	1.8	1.0

Note. The figure is the screenshot taken from Report on the Nepal Labour Force Survey 2017/18 (p. 25), by Central Bureau of Statistics, 2020 (https://cbs.gov.np/wp-content/upLoads/2019/05/Nepal-Labour-Force-Survey-2017_18-Report.pdf). Copyright 2020 by Central Bureau of Statistics.

Figure 5.2 : Formal and Informal Sector Employment by Province in Nepal

Table 4.5: Formal and informal sector employment by province

	Total	Agri.	Non Agri.	Formal Sector	Agri.	Non Agri.	Private Hhlds.	Informal Sector
								thousands
Nepal	**7 086**	90	2 586	**2 675**	1 434	2 904	73	**4 411**
Province 1	**1 208**	21	422	**444**	246	508	10	**764**
Province 2	**1 261**	3	270	**272**	447	526	17	**989**
Province 3	**2 129**	25	1 002	**1 027**	245	826	31	**1 102**
Gandaki	**606**	11	229	**240**	93	267	5	**366**
Province 5	**1 139**	18	391	**410**	277	445	7	**729**
Karnali	**288**	6	125	**131**	42	114	2	**157**
Sudurpashchim	**455**	5	147	**151**	83	218	2	**303**
								percent
Nepal	**100**	1.3	36.5	**37.8**	20.2	41	1	**62.2**
Province 1	**100**	1.7	35	**36.7**	20.4	42.1	0.8	**63.3**
Province 2	**100**	0.2	21.4	**21.6**	35.4	41.7	1.3	**78.4**
Province 3	**100**	1.2	47	**48.2**	11.5	38.8	1.4	**51.8**
Gandaki	**100**	1.8	37.8	**39.7**	15.4	44.1	0.8	**60.3**
Province 5	**100**	1.6	34.4	**36**	24.4	39.1	0.6	**64**
Karnali	**100**	2.2	43.4	**45.5**	14.5	39.4	0.5	**54.5**
Sudurpashchim	**100**	1.1	32.2	**33.3**	18.3	47.9	0.5	**66.7**

Note. The figure is the screenshot taken from Report on the Nepal Labour Force Survey 2017/18 (p. 27), by Central Bureau of Statistics, 2020 (https://cbs.gov.np/wp-content/upLoads/2019/05/Nepal-Labour-Force-Survey-2017_18-Report.pdf). Copyright 2020 by Central Bureau of Statistics.

5.1.6 Issues related to the labour market and unemployment

Some of the issues related to labour market and unemployment in Nepal are:

- About five lakhs youth enter into Nepal's labour market every year.
- Decent work seems just rhetoric, as the informal sector employs 62% of people (no social security, minimum wage, occupational safety, health insurance etc.)
- Lack of manpower planning and projection
- Nepal's labour market is dominantly unskilled.
- Nepal lacks a labour market information system.
- In the last decade, Nepal issued almost 5.04 million (4.8 million realized) labour permits to the migrant workers for 110 countries, mainly to Malaysia and the Gulf.
- Labour often encounters recruitment fraud, wage theft, human trafficking etc.
- Nepal realized 25-30% of its GDP from remittances (Nepali rupees 8.79 billion in 2018/19).
- Among the returnee migrants, only 42.8% were employed.
- COVID-19 has severely impacted the global and regional supply chains, tourism, consumer confidence, manufacturing and eventually leading to a negative economic growth in the world.

5.1.7 Impacts of COVID-19 on labour market and employment

The COVID-19 pandemic may have several consequences on the labour market and employment. They are:

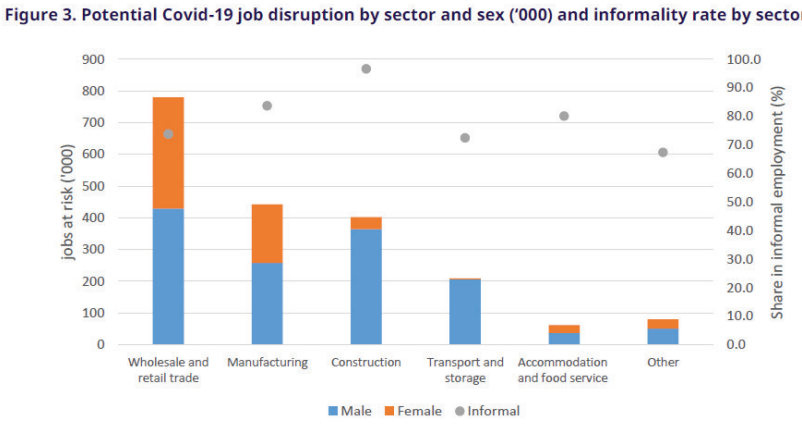
- Nepal's economic growth was initially estimated to be about 8% in the fiscal year 2020/21, which may fall as down as 2.3% as per GoN estimation, or 1.8% as per World Bank estimation or 1.2% of IMF estimation because of COVID-19 pandemic.
- Tourism industry, one of the main pillars of Nepali economy, is highly hit by the pandemic. It has been roughly estimated that the tourism industry

may experience 16% of the negative growth.

- Many Nepali migrant workers tend to return home due to joblessness and economic impact on the host countries. This may drastically reduce the remittance which will ultimately affect the GDP growth as remittance is contributing nearly one-third of the GDP.
- The COVID-19 pandemic has reenergized the importance of the agriculture sector in Nepali economy.

The economic impact of the pandemic is palpable because the increasing numbers of people are losing jobs in both formal and informal sectors within the country. The jobs are likely to be disrupted in different sectors. According to an ILO brief note, the highest numbers of jobs are likely to be disrupted in wholesale and retail trade followed by the manufacturing and construction sector (See Figure 5.3).

Figure 5.3 : Potential COVID-19 Job Disruption in Nepal



Note. The figure is the screenshot taken from COVID-19 Labour Market Impact in Nepal (Briefing note), by International Labour Organization, 2020 (https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-kathmandu/documents/briefingnote/wcms_745439.pdf). Copyright 2020 by the International Labour Organization.

5.1.8 Immediate impacts of COVID-19 on the migrant workers

As discussed above, migrant workers are highly hit by the pandemic. The immediate impacts on them are as following:

- Compelled to return due to pandemic from the overseas and seasonal employment from India
- GoN's aversion to getting workers back home
- Reluctant to utilize foreign employment welfare funds for the cause of poor workers
- Differential treatment at the border points (air versus land travelers)
- Very weak health check-ups at the border checkpoints, very poor quarantine and isolations room along with the inadequate provisions of the health
- Persistent immature decision-making system
- Weak transportation management to returnee workers
- Poor management of the hospitals, entire health system and even for the last rites of the dead ones etc.
- Poor planning and projection of GoN about the potential returnees as the GoN said an uncontrolled influx of Nepali citizens from India.

5.1.9 Challenges and Opportunities

The challenges posed by the COVID-19 pandemic with regard of labour market and employment are as following:

- Managing the continued return of a large number of migrant workers with regard to the air-fare, holding centers, quarantines, isolations, medical equipment and health professionals.
- Issues of family reintegration/reunion
- Difficult to manage and maintain the household economy
- Massive discontent against the lockdown and its impact on the economy
- Government's incompetence and inefficiency in managing COVID-19 pandemic might trigger social unrest.
- Lack of technical know-how, health personnel, financial and needful health related materials of provincial and local government
- Massive public discontent with the accusation of widespread corruption while procuring the medical equipment
- Anxiety in bridging the fiscal gaps due to reduced remittances

The pandemic not only poses the challenges but also opens-up the opportunities and the possible opportunities are:

- Planning the unplanned task of for the productive use of the financial and social remittances i.e. cash, skills, experiences, exposure, network and technical know-how.
- Immediately recording and utilizing the knowledge, skill and experience at the federal, provincial and local levels to engage the returnee workers fairly, transparently and justly with the provisions of soft loan
- Operationalizing the concept of land bank for reviving the agriculture
- Swift mechanization of agriculture sector with required support systems followed by the cold storage.
- Identifying other employment elasticity in job-intensive sectors
- Designing and implementing a national employment guarantee scheme
- Promoting gainful labour diplomacy
- Harnessing and mainstreaming employment in sectoral development policies and programs in coordination with the provincial and local government
- Establishing labour academy for skill development training and research
- Streamlining youth self-employment fund and poverty alleviation fund to employ the returnee workers
- Engaging youth folk along with all the ties of government, civil society organizations and private sector for income-generating programs
- Sharing the province wise data of the migrant workers along with their skills, knowledge and experiences so that it would be easier to handle
- Good opportunity towards self-reliance economy

Webinar Five

Adapting in the Times of COVID-19: the Engagements of CDN Partners

The MICD-MU organized a webinar on "Adapting in the Times of COVID-19: The Engagements of CDN Partners" on June 29, 2020. This was the fifth virtual seminar of the MICD-MU since the COVID-19 pandemic disrupted the 'old normal'. The main objective of the program was to bring the representatives of all the partner universities of the Cooperation and Development Network (CDN) in a single platform to share their experiences in the peril of the pandemic. The webinar had four sessions- opening, presentation and opinion sharing and valedictory.

CDN is a loose network of post-graduate education programs on cooperation and development of five different universities spread across the world representing Africa, Europe, the Middle East, Latin America and South Asia. Its partner universities include Bethlehem University (Palestine), Kenyatta University (Kenya), Mid-West University (Nepal), University of Pavia (Italy) and Universidad de San Buenaventura (Colombia). These five different education programs across the globe share the core syllabus and the experience and collaborate in-terms of exchange of teachers and students[7]. CDN is also accredited by UNESCO. It aims to train professionals on different issues of economics, cooperation and human development[8]. The topic of the contributing role of the universities in reaching the 2030 agenda of global transformation has prominently surfaced in the academic discourse in the contemporary era of SDG. In this regard, the CDN director quotes- 'CDN is an initiative to contribute SDG as a part of global partnership for development'[9].

The opening session is highlighted by the remarks of the special guest of the event- Prof. Dr. Nanda Bahadur Singh, Vice-Chancellor of MU. The main crux of the event, the presentation session, consisted of the presentations from

7 Vaggi, G. (2020a, March). Message from CDN Director. MICD News, 2(1), 8.

8 CDN. (n.d.). *The Network-CDN Network Profile.* Retrieved July 10, 2021, from http://www.cooperationdevelopment.org/profile/

9 Vaggi, G. (2020b, July). Note from CDN Director. *MICD News*, 2(2), 1.

the CDN partner universities about the current situation in the respective universities and the country in the midst of the COVID-19 pandemic. Regarding the contents, these presentations were centered on the following three questions:

- What is the condition of the COVID-19 pandemic in the home country?
- How the academic programs were resumed at the time of pandemic/ lockdown?
- What strategies the university is adopting or developing in the wake of the long-term impacts of the pandemic?

6.1 Adapting in the times of COVID-19: the Engagements of Kenyatta University (KU) by Dr. Perez Onono10

The first case of the COVID-19 pandemic was reported on March 13, 2020 in Kenya. Immediately after, the president of Kenya said the appropriate measures and actions are being taken to curb the spread of the COVID-19 in his address to the nation. Following his speech, the government of Kenya announced various measures to combat the pandemic. As is the case globally, citizens were advised to observe the social distancing. Similarly, the government imposed a countrywide curfew during the nighttime and lockdowns in the counties where higher cases were reported. With regard to teaching and learning activities across Kenya, the education institutions were asked to close both academic and administrative affairs from March 20, 2020 and halt the face-to-face teaching and learning activities in these institutions.

With the restrictions in place, the economic activities remain low with high impacts on Small and Medium-sized Enterprises (SMEs). A considerable number of people have lost their jobs, which severely affects their lives and livelihoods. There are growing uncertainties of resuming regular business of the schools and the universities across Kenya with the increasing number of cases. On a positive note, the government has increased its efforts to find the solutions to the crisis. In this regard, our new budget announced on June 11, 2020 has included the provisions of the stimulation packages to the sectors which are highly impacted in order to support their speedy recovery.

10 Dr. Onono is the Dean of School of Economics in Kenyatta University, Kenya.

6.1.1 Situation at KU

Following the president's directives, the KU has closed down physical teaching and learning activities from March 17. The academics are asked to continue their activities from home. So, the classes are assumed via online as the university has directed to proceed with online classes facilitated by available platforms such as Zoom and Skype. Despite the completion of coursework via online classes, we are not able to upgrade the students to next semester since the university could not hold the semester-end examination. This has greatly affected the students of the final semester who are expecting to attend the graduation ceremony organized by the university at this hour of the year.

To post-graduate students, the following activities are ongoing through an online platform:

- Supervision of research/project/thesis development
- Presentation of proposals and research findings
- Examination of project and thesis
- Defense of dissertation/thesis

However, one of the main challenges to the post-graduate students is that the students are not able to conduct field work and collect the data physically.

6.1.2 Long-term strategy of the KU

It is of course understood by the university and the wider society that the pandemic is going to stay longer with us. The pandemic will continue to affect the nature and modality of teaching and learning activities for a longer period. Realizing this, the university has introduced a blended teaching and learning approach in all its academic programmes in its ten years' strategic plan 2018-2027. The blended approach is the appropriate combination of face-to-face and online teaching and learning activities. This means students in all the programmes of the university will have some of the classes delivered through online platforms. In order to facilitate such initiatives, the university is currently working to develop the online interactive modules for all courses as well as holding training programs for faculty members to conduct online classes properly and effectively.

6.1.3 KU's contribution to the efforts to combat the COVID-19 Pandemic

The university has been part of the response by distributing materials to the surrounding community for safety including hand sanitizers and face masks. Similarly, the fifteen students of KU from the school of engineering, pharmacy and medicine have developed the first-ever homegrown ventilators in the invention center of the university. This is the historic moment of university education in Kenya. The ministry of health in Kenya has already granted the accreditation for these ventilators and the university will start manufacturing the ventilators for use in the health center.

6.2 Adapting in the times of COVID-19: the Engagements of the University of Pavia by Professor Maria Sassi[11]

The Italian National Health Service reported two hot spots of COVID-19 cases in Lombardy and Veneto regions and declared red zones with the introduction of stringent measures to contain the epidemic on February 23-24, 2020. With the evolving situation, the government decided to extend these extraordinary measures to all Lombardy on March 8. This marked the complete lockdown of the University of Pavia and it was a very big change for us.

I would like to define the University of Pavia as a 'SPARK' of Knowledge, where the full form of the term SPARK refers to:

- System (S): The unique 'Pavia System' is composed of 17 colleges and residences and the university has a leading and promoting role within the system.
- Prestige (P): Included in the top ten best Italian universities, the university is composed of eighteen departments delivering a wide variety of disciplinary and interdisciplinary courses.
- Ancient (A): The University was founded in 1361 from the ashes of the old school of law (already established in 825) during the middle ages and under the reign of the Visconti family.
- Research (R): Traditionally involved in research and international student and teachers exchanges, the university can count three hundred and

11 Professor Sassi is associated with the Master in Cooperation and Development at University of Pavia, Italy.

thirty seven exchange relationships over the world; five hundred partner universities/research institutions all over the world; partnership with the most prestigious international research networks; 21,000 students of which eight percent are international students.

- Knowledge sharing (K): The University represents a true melting pot where different international cultures and traditions converge, as well as a place of exchange and sharing.

Anyone can imagine the effects of lockdown in the university, keeping in mind that one of the most important pillars of our university is on-campus education. Because of the pandemic, our university has to move from on-campus education to distance learning education. However, we were ready for the technical challenge because our university has invested or is investing deeply in didactic innovation and digital communication services providing innovative solutions for connecting the virtual and physical space. Therefore, it was possible to hold all the teaching activities including examinations and graduations via an online platform in just a one week period. We appreciate a lot of the investment in producing innovation at the university level.

Considering the effects of the pandemic, we have to design a new educational approach. We have put specific attention to two elements, which are very important in the context of on-campus education: social-environmental space and student's motivation. The social-environmental space is the system of ideas, sentiments and practices which express in us not our personality, but that of the group or different groups of which we are part. In order to maintain social-environmental space, we have generated opportunities to engage with students online as well as students with people that would be a valuable part of their network through webinars. The student's motivation is very easy to generate in on-campus education since students are surrounded by other students whose goals are similar. In order to maintain the motivation, we are promoting the meetings to connect students with classmates and to discuss what students were learning. We are also stimulating regular attendance to allow students to ask questions and interact with the course materials on a regular basis.

In order to cope up with the evolving situation, the university has introduced various units and services. I would like to present two of these new services

and units established at the university. The first is the crisis unit established in order to allow the most effective coordination of all university activities for better management of an emergency. Because of the unit, we are having one clear decision valid for everybody and there is no chaos and no panic. This unit is providing us periodical information to technical-administrative staff, teachers and students in both Italian and English language. The second service that the university has established is the psychological counseling service for psychological support, also in English, to students, teachers and technical-administrative staff. These two bodies are working very well and they are facilitating our activities.

I would like to say some words on the response of the researchers because we benefited a lot from the research solidarity and this is a valuable value that we need to preserve. We received thousands and thousands of messages of solidarity from our colleagues around the world and everybody was available to help us. We felt a part of the international scientific community and needed to contribute to design a new university and fight together against a new virus and its implications. The University of Pavia is a part of international teams working on how to find solutions to the COVID-19 and understand its impact as well as design the post-COVID-19 period.

Now, we are in a new phase. The university has taken a clear decision in a period of uncertainty. It has been decided for blended learning i.e. the proper combination of face-to-face teaching maintaining the physical distance and virtual classrooms (one week on-campus and one week online). One of the important lessons of this dramatic situation has highlighted the important role of the partners and their mutual support. The COVID-19 is a challenge that we all faced and are facing with courage, realism and a deep sense of humanity and understanding.

6.3 Adapting in the times of COVID-19: the Engagements of the Universidad de San Buenaventura by Ibelis Blanco Rangel[12]

COVID-19 arrived in Latin America on February 25, 2020 when Brazil confirmed its first case, which later led to a massive spread in the region. As of

12 Rangel is associated with Cooperation and Development at Universidad de San Buenaventura, Colombia.

June 2020, the mortality rate of the COVID-19 pandemic is 5.4% in the region. Unfortunately, there is a deficit of beds, ICU and ventilators for patients in the hospital in Latin America. So, there is a potential risk of more deaths due to lack of these facilities.

In Colombia, the COVID-19 pandemic arrived on March 6, 2020, which was confirmed in a young lady from Italy. As of June 25, the department of health and social services confirmed 80, 599 infectious cases, 33, 349 recovered cases and 2654 deaths from the pandemic. However, it is assumed that the number of confirmed cases is being underestimated. Cartagena, the city which hosts the university- Universidad de San Buenaventura, reported the first confirmed case of COVID-19 on March 11. Comparing the number of confirmed cases and deaths of the main cities of Colombia, Cartagena has the third-largest number of cases in the country and the second-most in the Caribbean coast.

In terms of the education system, the COVID-19 pandemic forced a change in the current system of teaching and learning in the university. Professors, students and employees had to engage in a new reality i.e. the virtual. The university has changed its face-to-face teaching system. Therefore, the lectures are delivered through video conferences. As a consequence of the pandemic, the number of student enrollments in approximately 367 universities of Colombia (76 public universities and 281 private universities) will dramatically go down in the new academic year.

The university adopted the following strategies to cope up with the long-term impacts of the pandemic as:

- Information and health advice had been disseminated through email to students, professors and employees
- Student health insurance recognized and covered the COVID-19 as a disease
- Provision of financial assistance like discounts and flexible payment and technical assistance such as internet connection and computer equipment for students who may need it.
- When entering the university, every person must fill out a survey about their health.
- Hand washing, wearing surgical masks and social distancing are compulsory in the university premises.

- It is advised not to leave the home if a person has COVID-19 symptoms and if a person comes into contact with the people having symptoms.

6.4 Adapting in the times of COVID-19: the Engagements of the MU by Rabin Malla[13]

6.4.1 What is the condition of the COVID-19 pandemic in the home country?

- The COVID-19 pandemic caused by a novel coronavirus (SARS-CoV-2) is a highly infectious disease that has created an unprecedented global challenge affecting all countries including Nepal. In Nepal, the first case of COVID-19 was reported on January 24, 2020. It was detected in a student who had returned from China and a few initial cases were from people who had returned from Europe via the Middle East using international flights.
- In recent days, most of the cases have been recorded in the lowland Terai districts of the country indicating that the major transmission slipped from the border between Nepal and India. Thousands of Nepali people go to India for work every year. This year, they returned en-masse to Nepal after India declared a lockdown.
- As of June 28, 2020, the coronavirus has spread to all 77 districts of the country as those home returning people, mostly the migrant workers made their destinations by roads using public vehicles. Reports are mounting that the infected cases are increasing in the rural mountains gradually.
- Both Rapid Diagnostic Test (RDT) and Polymerase Chain Reaction (PCR) are being implemented. Based on a total test of 512,605 tests the total number of infected people has crossed 12,772 on June 28, 2020. The death toll is 28 till date. The nationwide lockdown was enacted from March 24; there has been some flexibility since the last two weeks.

6.4.2 How the academic programs were resumed at the time of pandemic/lockdown?

- In Nepal, there are 35,601 schools, 15 universities (including four deemed

13 Malla is the program coordinator of Master in International Cooperation and Development under Mid-West University, Nepal.

universities) and 1407 college or campuses. We have about 7.4 million school students and over 360,000 university students altogether. Soon after the lockdown, all these educational institutions were closed.

- On March 28, 2020, the Ministry of Education, Science and Technology formed a high-level committee to discuss various aspects of COVID-19. The committee suggested implementing on-line classes at all levels of education. Now we have a national guideline for virtual classes.
- MICD-MU resumed its virtual classes from April 10, 2020. Earlier, we had meetings with the faculty and all the students on Skype. We discussed adapting to the new normal and mechanism of resuming classes and other academic activities. Most interestingly, the students' attendance is better in virtual classes reaching over 90 percent. We also have conducted mid-term examinations using the same methodology.
- There are 15 constituent campuses under MU, they all are operating on-line classes. Besides the on-line classes, MU is aggressively campaigning to raise public awareness of COVID-19 and also involved in supporting the activities of local and provincial governments. The university created quarantine facilities consisting of 600 beds at its premises. It has a special portal dedicated to public awareness on COVID-19. Recently, it has formed the Combat COVID-19 Expert Panel, involving national and international experts.
- Besides the virtual classes, MICD-MU is organizing a series of webinars on contemporary issues related to COVID-19. This is the fifth of the series. MICD-MU has also organized two e-conferences in collaboration with Nepal Academy of Science and Technology and Scientist Nepal platform. There was a huge enthusiasm in both the e-conferences bringing over 300 participants on Zoom and over 10,000 in Facebook lives and followers.

6.4.3 What strategies the university is adopting or developing in the wake of long-term impacts of the pandemic?

- MU is of the opinion that the on-line classes must be mainstreamed as complimentary even after resuming face to face classes later.
- On the examinations, the University Grant Commission has brought Guidelines for e-learning and examination systems for the universities in Nepal 2020. The guideline has given priority to conduct conventional examinations by maintaining safety protocols; however, when such is not

possible it has suggested upgrading the students to next semester or year
- Students of MICD-MU are working from home; some of them are actively participating in community services amid the COVID-19 pandemic.

Opinion from the Participating Graduate Students

In the webinar, there were post-graduate students representing the CDN partner universities. The post-graduate students from each partner university of CDN shared their experiences about the ongoing academic programs in their university in the time of the pandemic. The students who expressed their views were Tapiwa Penama (Malawi) from University of Pavia, Johana Mila De la Roca (Venezuela) from Universidad de San Buenaventura, Kenneth Karanja and Brenda Mwancha (Kenya) from Kenyatta University and Suhsmita Shrestha and Rabina Shakya (Nepal) from Mid-West University. The post-graduate students were of the view that they are motivated and encouraged to join the virtual academic activities happening in the university i.e. very effective. According to them, this is a new experience as well as pushing them to think out of the box. In course of adjusting to the new normal, one of the important lessons learned that have lifetime implications is how to work under emergencies as a development practitioner. However, some students have serious concerns about the uncertainties of examinations or evaluation systems in the university. On a positive note, the students wanted to have student exchange programs and internship opportunities across the partner universities of CDN in order to augment the student exposure in new settings.

Closing Remarks by Professor Gianni Vaggi[14]

In the valedictory session, Prof. Vaggi delivered the closing speech. The excerpt of his speech includes:

- Following the pandemic, we need more international cooperation not less. It does not mean we get more international cooperation. There are forces pulling on one side and forces pulling on the other side. From our side, where we have not only our academic institutions but also colleagues from civil societies, we have to do as much as we can to move further to more international partnership and cooperation. It will not be

14 Dr. Vaggi is the CDN director and a professor at University of Pavia, Italy.

easy but we have to try. As a part of academic institutions and also as a part of the network (CDN), we could do what we have learned during this period of pandemic. For sure, we have to strengthen our activities as CDN members. Here, I would make two suggestions. First, let's each of five partner universities make a commitment to organize one webinar on the contemporary topics or issues per month from October/November onwards. We can pick one topic per month; it could be an economic issue, environmental issue or political issue relating to development and cooperation. Second, I would suggest commencing the initiations and activities like blogs sharing among the students of five partner universities in order to activate the student connection and interaction between them.

- Regarding teaching-learning, we will have to use both campus teaching as well as online distance learning. The value of getting young people together is enormous which can really not be measured. When we gather young people from different parts of the world, it is simply not sharing their experiences but we give them a framework to do so in a structured and an organized way. If we look at SDG, we should be in number four, that is education. However, I think SDG-17 is becoming more and more important. I see that SDG-17 in partnership is instrumental to better achievement of SDG-4 which is quality education for all and at all levels. The more the quality education we have, the more we can go for a global partnership, which is a true partnership. Therefore, we must do as much as we can for more international partnerships among the institution and students using the network.
- Time flies, but there is always a possibility to make it better and even in a deeper way. Tragedies and disasters such as the present pandemic give us reasons to take more commitment. With the young people we have and work with, these efforts are not going to be lost. When such efforts are not lost, essentially they become more important.

Webinar Six

Virtual Socialization in the Times of COVID-19 Pandemic

The MICD-MU organized a webinar on "Virtual Socialization in the Times of COVID-19 pandemic" on July 13, 2020. This was the sixth virtual seminar of the MICD-MU webinar series in COVID-19 pandemic. There were basically two objectives of this event. First, the webinar was aimed to bring the alumni and graduate students in a single platform to share their experiences as MICD-MU students and update their professional achievements. The second objective was to know how the alumni and graduate students are engaging in the peril of the COVID-19 pandemic. The invited guests of the event were Mr. Kamalesh DC, Acting Dean, Faculty of Humanities and Social Sciences (FHSS) - MU and Dr. Bijoy Barua, Professor at East West University, Dhaka. There were more than 60 attendees including faculty members, alumni and graduate students of the MICD-MU. The webinar had four sessions opening, presentation and introduction of MICD-MU editions and valedictory.

Opening Session

At the outset, the moderator Dr. Dinesh R. Bhuju said that MICD-MU is organizing the virtual socialization programs considering the evolving situation of the pandemic, which was made possible because of the innovations in science and technology. Overviewing the snapshots of MICD-MU program as well as CDN, he presented the percentage of student enrollment rate, drop-out rate and pass rate in MICD since the beginning of its journey. Elaborating on the professional profile of the MICD graduates, he updated that the graduates are working in various organizations like educational institutions, UN agencies, government services, I/NGOs, and private sectors at different capacities.

Delivering his welcome remarks, Mr. Kamalesh DC said that the FHSS-MU has put immense importance to the MICD program. Acknowledging the contribution of faculty members of MICD, the Acting Dean said that he is highly hopeful that the MICD will support to reinforce the global recognition

of the university. Emphasizing the necessity of webinars in the time of the pandemic, he stated that the webinars will make positive contributions in the dissemination and production of knowledge at the university level. Furthermore, such initiatives should be part of the academic institutions in the future.

Presentation by MICD-MU Graduate PhD Scholars

In the second session, the MICD-MU graduates who are currently pursuing PhD degrees in Nepal and India shared their experiences of doctoral degree enrollment and engagements in the age of pandemic. The presentation of PhD scholars covers the following points:

1. What factors promoted you to undertake the PhD program?
2. How MICD study has been useful for it?
3. How is your university engaging you during the time of pandemic/ lockdown?

The first presenter, **Ms. Deepali Rana, PhD Scholar at Amity University, New Delhi**, said she is writing her PhD thesis titled "Continuity and Change in Foreign Policy of Nepal from Monarchy to Democracy". Having a Bachelor degree on Social Work, Ms. Rana mentioned that MICD was a breaking through point to her academic career. The rigorous lectures and academic activities in MICD has increased her interest in international relations as well as inspired her to pursue PhD degree in the same field. Furthermore, Ms. Rana credited three international exposures that she got with the support of MICD have geared up her willingness to enroll in higher education in New Delhi. In this regard, she elaborated her participation in three international conferences like OBOR (One Belt One Road) training program in China, social entrepreneurship conference in Milan, Italy and Asian conference in Sydney. During the time of Pandemic, she has been meticulously working with her supervisor to shape the PhD dissertation. She ended her presentation with saying 'Where I am now, I am because of MICD'.

The second presenter, **Mr. Surendra Bohara, PhD scholar of Economics at TU,** stated his PhD dissertation is titled as "Measuring Political Economy of Economic Nationalism: A Comparative Study between Germany and Nepal". Discussing his childhood innocence, Mr. Bohara recalled that he used to ask

the senior family members what the highest level of education is, of which he would get a ready-made reply of PhD. This has built a comprehension in his conscience that intellectuals are those who achieve the highest level of education. One word that motivated Mr. Bohara to enroll in the MICD program is research. Mr. Bohara further elaborated that the contents and design of MCID curriculum have extensively included the research component which lured him to join the MICD and pursue future career in research and academia. Overall, these two scenarios set the background for his PhD enrollment, Mr. Bohara said. Highlighting his experience as a PhD scholar, he said writing PhD alters the perception of people as well as makes people responsible to better serve the people and society. During the pandemic, Mr. Bohara described his engagements as follows:

- Extensively engaged in teaching and learning activities as a PhD candidate such as preparing list of bibliography list and reviewing the literature
- Actively participating in the work of Kaliali Chamber of Commerce and Industry as an executive board member
- Looking after social and family affairs
- Involved in some research works such as entrepreneurship and COVID-19 pandemic and Ayurveda intervention on COVID-19 pandemic

Presenting her experience of PhD enrollment, **Ms. Ajaya Giri, PhD Scholar in Central Department of Economics at TU,** said the lectures delivered by the competent faculty in MICD had truly motivated her to pursue further academic degree. Discussing MICD course as versatile in nature, Ms. Giri said the MICD had been a strong bridge to shift her career from the microbiologist (as she completed Bachelor's Degree in Microbiology) to development economist. At this time of the pandemic, Ms. Giri has aggressively been attending the PhD lectures through virtual means such as Zoom APP.

Introduction to MICD Editions

In this session, the student representing seven editions of MICD program shared their experiences as a student and updated the professional status of the colleague focusing on three questions:

1. Which edition are you representing?
2. How many were/are you in the edition
3. Where are you and your colleagues working?

Kabita Devkota, First Edition of MICD

- I am currently working as a project coordinator of Advancing Women's Participation in Livestock Vaccine Value Chains in Nepal, Senegal and Uganda.
- In my edition, there were altogether 21 students. My colleagues are currently working in a wide range of workstations such as I/NGOs, education institutions and private sectors at different capacities.
- As being the first edition, I must say MICD was an interesting experience since everything was new for us as well as faculty members. We were fascinated with the different teaching and learning systems such as group discussion, presentation and assignments incorporated by MICD curricula.
- In my personal experience, MICD guided me on how to build a network as well as to grab the opportunities.

Anil Neupane, Second Edition of MICD

- We were altogether 22 students in the second edition of MICD. One of the peculiarities of our edition was the perfect mixture of experienced development professionals and fresh young students.
- My tenure as a country manager in one of the reputed INGO has recently expired.
- The MICD education provided an excellent academic insight of the development sector to me and my colleague.
- MICD was an important element of my life journey. I really missed the morning tea and meeting and chatting with the friends inside and outside the classroom.

Gaurav Chaudhary, Third Edition of MICD

- There were 23 students in the third edition. It is a very proud moment of the third edition that three of our colleagues are enrolled in PhD degrees in Nepal and abroad.
- I have been working in different agencies of the United Nations since 2007. Our friends are working in several organizations at various capacities.
- I believe the greatest strength of MICD is its interdisciplinary nature which has broadened the professional and academic scope.

Santosh Pandey, Fourth Edition of MICD

- Our 22 colleagues are currently working in several organizations such as I/NGO, Business Company, United Nations, private organizations, government offices and educational institutions. We have become the officers, senior officers, business owners, lieutenants, teachers, project coordinators and managers and project assistants.
- MICD dually gets the credit in my journey from food technology to development workers. Also, it is a good bridge to connect me from an NGO worker to an employee of the United Nations.

Rabina Luitel, Fifth Edition of MICD

- I am currently working as a project coordinator of Rakshya Nepal and looking after the project funded by the United Nations Office of Drugs and Crime (UNODC) and UN Women.
- After completing a Bachelor's Degree from Kathmandu University, I was looking for a subject that will allow me to work in real-world experience. I found the MICD a perfect match to me. I liked the interactive teaching and learning activities of MICD.
- We were a group of 25 students with a good combination of experienced professionals and fresh young students. Most of our colleagues are currently working in several organizations but some are still unemployed.

Abish Man Shakya, Sixth Edition of MICD

- There are altogether 26 students in our edition. We are composed of diverse academic backgrounds such as computer science, social work, development studies and food and nutrition. Some of our friends are already employed in different organizations.
- I personally engaged in various activities during the pandemic such as distribution of food and relief materials as well as medical support.
- Studying MICD is a great experience of life and it is a multi-disciplinary course.

Avimansingh Lama, Seventh Edition of MICD

- There are 21 students in our edition. We come from different educational backgrounds.
- Our colleagues are working in different offices as a consultant, translator, filmmaker, researcher, health officer, administrative coordinator, program officer, activist, IT specialist, environmentalist, and migration specialist.

Valedictory Session

Delivering his summing up remarks, Professor Bijoy Barua said he became nostalgic while attending the socialization program which brings him back to his lecturing days in MICD. He said he is only hearing the good part of MICD from the presenters. Moreover, he has expected that the graduates would come up with new ideas and feedback to be incorporated by MICD for its future academic activities, he said. Saying closely following the activities of MICD during the pandemic, he expressed that he was overwhelmed by the role and contribution of MICD in response to COVID-19 pandemic. Prof. Barua explained three elements of teaching and learning activities: access, exposure and experiences within and beyond the classroom. Moreover, action and critical reflection are very important in the learning process. Stating MICD as a multidisciplinary subject, Dr. Barua shared the importance of economic sociology in the contemporary world. It is necessary to combine the economic interest of a nation-state with the social and cultural contexts and realities of the society in order to actually serve the people, he emphasized. Prof. Barua said pursuing a MICD degree is undoubtedly aimed at developing human capital and resources. Further, capacity building must increase the ability of the student to solve the problems of society as well as serve the people. In this regard, he elaborated it is the duty of MICD students to explore and find out the process and aim of capacity building in 1950s, 60s, 70s, 80s, and till now. Pressing the current situation does not exist long, he advised the student to be strong and determined. Whatever you do after MICD but your work should be people-centered, he advised. He depicted the purpose of academia is to address the needs and aspirations of people and the community.

Webinar Seven

COVID-19 and SDG Impact: Achieving Basic Education

A webinar on "COVID-19 and SDG Impact: Achieving Basic Education" was organized on July 27, 2020. This was the seventh virtual seminar of the MICD-MU webinar series in the COVID-19 pandemic. The webinar was aimed to analyze the impacts of the COVID-19 pandemic on achieving the targets of SDG 4 relating to the basic education that includes Early Childhood Development (ECD) and Primary Education. The lead presenter of the event was Dr. Mahashram Sharma, former education secretary of the GoN. There were more than 40 attendees including education experts, faculty members, alumni and graduate students. The webinar had three sessions opening, presentation and comment and opinions from the invited personalities.

Opening Session

At the outset, Dr. Dinesh R. Bhuju, moderator of the event said that three fronts- health, food and education should not be paused even during the time of war, emergency and crisis. But, approximately 1.73 billion of students have been barred from their fundamental rights of education because of growing fear and impact of the pandemic, he stated. In order to adjust with the new normal, Dr. Bhuju illustrated that the education institutions across Nepal have adopted alternating teaching and learning methods via web applications and TV/Radio but there is a need for rigorous research in order to know the effectiveness of this alternative method.

Delivering his welcome remarks, Mr. Bishnu Kumar Khadka, officiating Dean of faculty of education, MWU, presented the targets and indicators of SDG 4 relating to the ECD and primary education and said that the basic essence of SDG 4 is quality education. Illustrating the challenges posed by the COVID-19 pandemic in the realization of the targets of SDG 4, he listed two questions that need in-depth analysis in academia: how does the COVID-19 pandemic impact on the achievement of the SDG targets by 2030? How do the policymakers intervene to mitigate the effects of the COVID-19 pandemic?

Presentation Session

Speaking on the topic of "COVID-19 and SDG Impact: Achieving Basic Education", the lead presenter- Dr. Mahashram Sharma said the webinar is designed to listen to the views and opinions of attending education experts. The content of his presentation is presented below:

8.1 COVID-19 and SDG Impact: Achieving Basic Education by Dr. Mahashram Sharma[15]

SDG is the globally agreed development framework for the planet, people, peace, prosperity and partnership. It has 17 goals, 169 targets and 232 indicators. In this webinar, we will discuss the impact of the COVID-19 pandemic on SDG 4: Quality Education focusing on ECD and primary education. SDG 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. It is made up of 10 targets and 43 indicators.

8.1.1 Fundamental Principles of Education 2030

The 2015 Constitution of Nepal illustrates the fundamental principles of education which are aligned with the SDG 4 as:

- Education is a fundamental human right and a basis for guaranteeing the realization of other rights.
- Ensuring that education is of sufficient quality.
- Gender equality is inextricably linked to the right to education for all.
- Emphasizes on lifelong learning opportunities
- Education is a public good, of which the state is the duty bearer.

8.1.2 Key indicators relating to the ECD and primary education

In 2019, the MoEST developed and approved the Nepal national framework in order to achieve the targets of SDG 4 by 2030. The national framework has listed indicators, strategies and interventions specific to each target i.e. necessary to reach 2030 education destinations. The figure 8.1 and figure 8.2 present the national indicators relating to the ECD and primary education included in the national framework, particularly of target 4.1 (ensure that all girls and boys complete free, equitable, and quality primary and secondary

15 Dr. Sharma is a former education secretary of GoN.

education leading to relevant and effective learning outcomes) and target 4.2 (ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education). The projected figures based on the MoEST baseline information for the benchmark years 2019, 2022, 2025 and 2030 are also shown in the figures.

Figure 8.1 : National Indicators for Target 4.1 of SDG 4 in Nepal

S.N.	Indicators	2015 (Baseline)	2019	2022	2025	2030
1	Net enrolment rate in primary education (grade 1-5) (%)	96.6	98.5	99.0	99.5	100
2	Primary education (grade 1-5) completion rate (%)	80.6	90.7	93.1	95.5	99.5
3	Proportion of pupils enrolled in grade one to complete basic education (grade 8)	76.6	81.5	92.0	93.0	95.0
4	Ratio of Girls (to boys) enrolled in grade one to complete basic education (grade 8)	1.04	1.03	1.02	1.01	1.00
5	Ratio of Girls (to boys) enrolled in grade one to complete secondary education (grade 12)	1.10	1.04	1.03	1.02	1.00
6	Learning Achievement/Score (Mathematics, Nepali and English) for Class 5 (%): a. Math b. Nepali c. English	 53.3 63.0 53.6	 55.0 66.0 57.0	 58.0 70.0 60.0	 63.0 72.0 63.0	 65.0 75.0 68.0
7	Proficiency level of grade 3 students in a. Nepali b. Mathematics*	 12.8 11.3	 14.1 13.4	 22.0 19.0	 28.0 24.0	 38.0 30.0
8	Gross Enrolment in secondary education (Grades 9 to 12) (%)	56.7	72.0	90.0	95.0	99.0
9	Ratio of female teachers (to male teachers) Basic education (Grade 1 to 8) Secondary education (Grade 9 to 12)	 39.1 17.1	 42.0 18.0	 45.0 22.0	 48.0 27.0	 50.0 33.0
10	Ratio of education budget (%)	12.04	13.0	15.0	17.0	20.0
11	Gross intake ratio at Grade 5 Gross intake ratio at Grade 8	115.1 85.9	113.0 87.0	110.0 90.0	107.0 95.0	105.0 100
12	Out of school children (%): Basic (Primary Grades 1-5) Basic (Grades 1-8)	 3.4 9.0	 1.5 7.5	 1.0 5.0	 0.5 1.0	 0 0
13	Percentage of overage children: Basic (Primary-Grades 1-5) Basic (Grades 1-8)	 36.6 31.4	 25.0 20.0	 20.0 17.0	 15.0 15.0	 10.0 10.0

** Projected figures are based on MoEST estimates on the basis of baseline information, 2015.*

Note. This figure is the screenshot taken from Sustainable Development Goal 4: Education 2030: Nepal National Framework (p. 38), by Government of Nepal, Ministry of Education, Science and Technology, 2019(https://moe.gov.np/assets/uploads/files/SDG_4_Nepal_National_Framework_(Final_Print_Ready_Copy)_July_2020.pdf). Copyright 2019 by Ministry of Education, Science and Technology.

Figure 8.2 : National Indicators for Target 4.2 of SDG 4 in Nepal

S.N.	Indicators	2015 (Baseline)	2019	2022	2025	2030
1	Percentage of grade 1 entrants with ECD/PPE experience	62.4	68.6	73.0	85.0	95.0
2	Coverage of child grants for pre-primary education (number in thousand)	506	596	620	650	700
3	Gross Enrolment rate in early childhood education (%)	81.0	86.2	89.5	94.0	99.0
4	Percentage of qualified ECED/PPE facilitators	93.7	95.7	97.0	100	100

Note. This figure is the screenshot taken from Sustainable Development Goal 4: Education 2030: Nepal National Framework (p. 42), by Government of Nepal, Ministry of Education, Science and Technology, 2019(https://moe.gov.np/assets/uploads/files/SDG_4_Nepal_National_Framework_(Final_Print_Ready_Copy)_July_2020.pdf). Copyright 2019 by Ministry of Education, Science and Technology.

Since the 2019 benchmark has already been crossed, the national SDG progress report reflects that Nepal did meet some of the national indicators of target 4.1 and target 4.2. Tables 8.1 and 8.2 detail the 2019 progress figures. Certainly, there are some changes in the figures but, in my view, it is not satisfactory and has failed to meet our expectations.

Table 8.1 : Key Progress on Target 4.1 of SDG 4 in Nepal

Target and Indicators	Baseline 2015	Target 2019	Progress 2019	Target 2030
Net enrollment rate in primary education (%)	96.6	98.5	97.2	99.5
Primary Completion rate (%)	80.6	90.7	85.8	99.5
Proportion of pupils enrolled in grade one who reach grade eight	76.6	81.5	79.3	95
Ratio of girls (to boys) enrolled in grade one who reach grade eight	1.04	1.03	1.01	1
Ratio of girls (to boys) enrolled in grade one who reach grade twelve	1.1	1.04	1.05	1

Target and Indicators	Baseline 2015	Target 2019	Progress 2019	Target 2030
Learning achievement/score (Math, Nepali and English) for grade five (%):				
Math	53.3	55	35	65
Nepali	63	66	34	75
English	53.6	57	41	68
Gross enrollment in secondary education (grade nine to 12) (%)	56.7	72	71.4	99

Note. From National Review of Sustainable Development Goals (p. 35), by Government of Nepal, National Planning Commission (NPC), 2020 (https://sustainabledevelopment.un.org/content/documents/26541VNR_2020_Nepal_Report.pdf). Copyright 2020 by National Planning Commission.

Table 8.2 : Key Progress on Target 4.2 of SG 4 in Nepal

Target and Indicators	Baseline 2015	Target 2019	Progress 2019	Target 2030
Percentage of grade one entrants with ECD/PPE experience	62.4	68.6	68.5	95.0
Coverage of child grants for pre-primary education (number in thousand)	506	596	596	700
Gross enrollment rate in early childhood education (%)	81.0	86.2	86.0	99.0
Percentage of qualified ECED/PPE facilitators	93.7	95.7	95.5	100

Note. From COVID-19 and SDG Impact: Achieving Basic Education (Powerpoint presentation during the webinar), by M. Sharma, 2020.

1.3 Major Effects of the COVID-19 in ECD and primary education

The non-pharmaceutical public health measures like social distancing and nationwide lockdown in order to mitigate the risk and impact of the COVID-19 pandemic have severely affected the teaching and learning environment,

methods and institutions across Nepal. The impacts have been marked at all levels of education including higher, secondary, training, primary and pre-primary education. Specific to the ECD and primary education, the effects of the pandemic are as following:

- Disrupted academic year
- Vulnerable groups are more affected i.e. the more vulnerable the more affected in-terms of learning, opportunities, health, protections and violence
- Negative impacts on curriculum delivery methods, existing pedagogical approach, assessment/evaluation methods
- Effects on the Learning environment
- Number of dropouts may increase.
- Increasing psychosocial problems on teachers, students, parents and school management bodies
- Higher economic impacts on private sector education providers
- Breaking of the attachments with teachers and friends
- Detachment from regular benefits like scholarship, mid-day meal, sanitary pad, textbooks and learning materials

1.4 Challenges and opportunities in achieving SDG 4 targets relating to the basic education

With growing spread and augmented infectious cases of the pandemic, the pandemic may pose several challenges in achieving the targets of SDG relating to the ECD are:

- Ensuring access to all
- Engagements of qualified and well-motivated facilitators
- Ensuring effective alternative learning modalities
- Educating parents in order to facilitate pre-primary/primary learning environment
- Choosing appropriate pedagogical approaches and creating favorable learning environment

Similarly, the major challenges of COVID-19 pandemic on the education level from class one to eight are as following:

- Reducing drop-out and increasing net enrollment
- How to reach the unreached students

- Adopting alternative (technology-based) learning modalities in an appropriate manner
- Teachers' adequacy, motivation, training , competence and accountability
- Holding learning assessment
- Distribution and availability of the learning materials such as textbooks, extracurricular materials, technology for vulnerable population
- Choosing appropriate pedagogical approaches and creating favorable learning environment
- Effective curriculum delivery techniques and methods
- Ensuring equal access to technology

It has been widely stated that 'every crisis has a silver lining. Referring to the statement, the pandemic has uncovered the opportunities for the education sector from ECD to class eight. They are:

- Awareness on health and hygiene
- Implementing localized structural setup closer to the beneficiaries
- Updating the status of enrollment and accessibility
- Implementing the constitutional and legal provisions of free and compulsory education
- Adopting the emerging practices in education such as technology based learning
- Equipping and increasing the number of ECD centers
- Opened up different learning modalities like school based, home based, community based and institutional based learning

Comment and Opinion from the Invited Personalities

In this session, two questions were pitched on the floor seeking opinions and comments from the invited personalities: how does COVID-19 pandemic affect the achievement of targets (relating to ECD and primary education) under SDG4? and what is the way forward to mitigate the negative effects of COVID-19? Altogether 16 education experts shared their views in the virtual gathering.

Dr. Baburam Adhikari, Deputy Secretary General, Nepal National Commission for UNESCO

- The effects of the pandemic on the achievement of the targets under SDG 4 are of a global concern not just of national concern. Such comprehension

can be derived from the UN conference held on July 7, 2020 in New York where the necessity to rethink and streamline new and innovative ways and strategies to meet targets and indicators of 17 SDG by 2030 in the new realities of the pandemic is identified.

- The main foundation of strategies, policies and interventions should contain investment in education, particularly of ECD and primary education. We need to discuss how much the investment in education is, considering the statement that 'investment on children, especially of ECD and primary education, is the investment for the citizen of tomorrow'. Undoubtedly, the investment in the citizens of tomorrow determines the future course of the country.
- Our actions need to focus on teachers' preparedness in order to achieve the indicators and targets. The 21st-century demands technology-driven education. The pandemic has further augmented the necessity of technology-driven education. The questions are- are our teachers prepared to meet such demand; and how much techno-friendly they are. Therefore, the government should create a favorable environment in order to solve these problems. New recruits in the school should find a techno-friendly teachers and staffs. Finally, technology driven education is a choice not just an option in the 21st century. But we need to consider limitations posed by geographical remoteness and uneven and unequal access to technology.

Baburam Poudel, Former Director General, Centre for Education and Human Resource Development-MoEST

- The COVID-19 pandemic has posed a serious challenge to the learning delivery system of our education institutions. In order to cope up with this, the MoEST developed and implemented student learning facilitation through alternative system guideline 2020. But the implementation of this guideline experienced low success because of uneven access to the devices, poor power supply, weak internet connectivity, low number of techno-friendly teachers and inadequate resources.
- The pandemic has reenergized the importance of eastern philosophy of "Home as first school and parents as first teacher".

Devina Pradhanang, Former Joint Secretary, MoEST

- First, I want to recall the statement of an intellectual which I really think is important to mention here- "COVID-19 is our family and friend with whom we have to live". Therefore, we must learn to live with the COVID-19 pandemic.
- The silver lining of the pandemic is that it helps to ensure children's right to live with their parents because parents and children are locked inside the home as part of non-pharmaceutical mitigating measures against the pandemic. How? There would be an increased realization of the important role of parents on child development in post-pandemic, which would undoubtedly strengthen the emotional bond between parents and children.
- Digital divide is hampering the effective implementation of alternative teaching and learning in the school including ECD and primary education. Those who can afford the technology and devices are learning and those who do not are barred from the learning.
- The pandemic has taught us there is a necessity of increased investment on e-learning. Also, we should promote the pair learning system. Plus, the emphasis has to be put on parent education. The programs enhancing the skills of parents should immediately be held in order to engage them in the child's learning more effectively and aggressively.

Dr. Dhruva Raj Regmi, UNESCO, Kathmandu

- The pandemic has generated economic, social and environmental impacts. The growing economic impacts of the pandemic on families are likely to increase school drop-out rate and decrease net enrollment rate.
- There are several pertinent questions that MoEST needs to address in order to continue teaching and learning activities via virtual platforms. What are the available alternative teaching and learning modality for ECD and primary education? What is the capacity of teachers to adjust to new realities? Is technology easily available? How are we going to address the concern of poor and disadvantaged people?
- Local assessment of the problems and local ownership of the programs are necessary to combat the COVID-19 pandemic in the country.
- Teacher's accountability is important. Teachers should be held accountable to the students and the school.

Dipendra Subedi, Spokesperson, Ministry of Social Development, Bagmati Province, Hetauda

- Due to nationwide lockdown, we are not able to distribute textbooks and other learning materials to the ECD and primary students.
- Because of the unpredictable and evolving pandemic situation, it will be almost impossible to bring ECD and primary children back to the physical classrooms sooner. So, we should find a reliable alternative teaching and learning modality for them. In my view, the active role of parents is crucial in educating their children at this juncture of time. Therefore, the MoEST should initiate programs and actions in order to educate parents so that they could be good mentors. Another option would be that MoEST should promote the community education programs by following the protocols of social distancing. In this regard, the schools of Bagmati province have been launching a community education program called-tol tol ma sikhshya (education in streets) by following the protocols of social distancing.
- Teacher training manuals should be revised in order to equip or acquaint teachers with both physical and virtual teaching and learning modality.
- School nurse program is essential. At least one health professional should be recruited in the school in order to maintain health and sanitation.

Hari Parajuli, Head teacher, Janapath Secondary School, Morang

- Our school has already distributed textbooks and other learning materials to the students by following the protocols of social distancing. With the closure of the school, teachers at our school prepared learning materials based on textbooks and distributed it to the students so that students are not completely detached from the learning process. In doing so, teachers visit students' homes and provide instructions to follow the learning materials.
- We also hold teachers and parents interaction programs at the community level. The program helped to inform parents about the school activities during the lockdown.
- What we learn from this pandemic is that the effective mobilization of local government is crucial while dealing with any kind of disaster situation.

- The pandemic has taught us that face-to-face teaching and learning activity is not sufficient. The face-to-face teaching and learning modality may not work in a disaster or crisis. So, we should develop alternative teaching and learning modality in advance.

Jaya Acharya, Under Secretary, Planning and Budget Section, MoEST

- The MoEST has already developed and implemented the 2020 guideline for alternative student learning facilitation. Based on the guideline, several programs have been launched to accelerate alternative teaching and learning activities through local radio, television, take away home learning packages, community education programs and distribution of printed learning materials across the country. However, there is a huge challenge of holding examinations to the students who are learning through alternative modalities. How do we assess the ECD and primary students who are learning through home and community?
- There is a commendable initiative of the teachers association such as the east to west marathon program in order to enhance teachers' skills for better handling technology-driven education.
- Schools have been used as quarantine and isolation centers across the country. Schools may face the challenges of how to disinfect the school and how to adopt and maintain safety measures when these schools will become vacant of infected people.
- There is no additional fund allocated for education during the disasters and emergencies like the COVID-19 pandemic, earthquakes and floods. The pandemic has taught us that we need alternative pedagogies during the disaster and emergencies.

Dr. Kamal Pokharel, Secretary, Chief Minister Office, Far-West Province (FWP)

- The pandemic has caused severe damage to one of the main pillars of learning modality of ECD and primary students i.e. learning through socialization. The thoughtful question here is how to repair it and compensate for the loss caused by it.
- Teachers' accountability is an essential element to be considered during the pandemic.

- In FWP, we have weak internet connectivity, poor infrastructure, and unequal access to the devices. In order to operate alternative teaching and learning modality effectively, the FWP needs more resources and budget in order to upgrade the infrastructure necessary for technology driven education as compared to other parts of the country.
- For ECD and primary education, the programs and initiatives should be implemented in order to enhance the capacity and skills of the parents. We must not forget that home is the first school and parents are the first teacher for small children.

Suprabhat Bhandari, Chairperson, Guardians Federation of Nepal

- With regard to involving parents as teachers, the key challenges are poverty and illiteracy. How do we engage poor and illiterate parents in educating their children? How do we carry out the parent education and training programs for them?
- There is an urgent need to launch the psychosocial support programs for the ECD and primary students across the country.

Kiran Acharya, Former Head teacher at Banke

- The headmaster should be responsible and accountable to the school and students.
- Well-trained teachers must be recruited.
- We could not totally rely upon the parents but the priorities have to be given on strengthening the face-to-face classes of ECD and primary level.

Krishna Malla, Vice-chairperson, Education Journalist Group

- One of the major implications of the pandemic would reduce investment and expenditure on education both by the government and parents in the future. This is because the economic impact of the pandemic would force the government to divert its education budget for combating the pandemic. Another is the reduced income of a family may downsize investment in a child's education.
- The pandemic would increase school drop-out rate and decrease net enrollment rate. So, the percentage of children out of school may go up in the upcoming academic year.

- Because of the nationwide lockdown, around 40% of children have not received the textbooks yet.
- Schools have increasingly been used as quarantine and isolation centers. This has damaged the school infrastructure such as classrooms, desks, benches and windows. For instance, using the school as a quarantine and isolation center has ruined one of the most decorated classrooms of the school i.e. ECD classes.
- My recommendations to mitigate the effects of the pandemic on the achievement of the targets of SDG 4 are: increase investment, activate community learning centers, make teachers techno-friendly and conduct monitoring and evaluation of the 2020 guideline.

Lalit Bikram Singh, Education Officer, Birendranagar Municipality, Surkhet

- The pandemic has higher impacts among the children belonging to the poor, disadvantaged and backward population. Therefore, any type of COVID-19 recovery plans should put this highly affected population at the center.
- The community schools are holding the classes via virtual platforms in Birendranagar municipality. However, the main problem is that a considerable number of students do not have access to radio, TV and internet connectivity. Our mapping study shows that approximately 18% of children do not have access to radio and TV in Birendranagar Municipality of Surkhet district. This will comprise around 5000 students. The statistics are more worrying in the remote areas of Surkhet. In gist, alternative teaching and learning modalities could not include all the students and these students belong to poor, disadvantaged and backward populations.
- Because of reverse migration from urban to rural areas, the net enrollment rate may go up in the remote parts of the country in the new academic year. The concerned authority should remain ready to tackle this trend appropriately.

Narayan Krishna Shrestha, Project Chief, Early Grade Reading Programme (EGRP)

- As mentioned before, the pandemic has a huge impact on face-to-face learning delivery systems. Among the available options to resume the classes, radio and TV would be the best option for learning delivery systems because these two devices have wider coverage compared to internet connectivity in Nepal. The main defect of learning delivery through radio and TV is that it is a one way system, where teachers and learners could not interact.
- Activity-based learning delivery systems must be promoted in order to tackle the crisis situation.

Dr. Prem Narayan Aryal, Professor, TU

- The pandemic has both positive and negative effects on education. On the positive side, there is an increased realization of the importance of the statement home as first school and parents as first teachers for the children. Similarly, it has enabled technology-driven education. Meanwhile, the negative impacts of the pandemic include: increased mental health problems among students and teachers, possibility of loss of an academic year, and posed severe challenges to achieve the targets of SDG-4.
- It is highly recommended to carry out an assessment to understand the situation as well as to locate the status of the access and availability of the internet connectivity, TV and radio. This assessment is very important to substitute face-to face-learning systems with virtual learning systems. Plus, it would support the government to provide subsidies for the poor, disadvantaged and backward population in order to better reach internet connectivity, TV and radio.
- The schools across the country should adopt hybrid teaching and learning systems in the post-pandemic context i.e. a mix of face-to-face and virtual teaching and learning systems.
- In order to tackle the challenges posed by the pandemic, the government should immediately begin initiatives such as teacher training programs, parent education programs, activation of community learning centers and mobilization of volunteers for educating students.

Dr. Prem Phyak, Associate Professor, TU

- To ECD, the teaching and learning should follow the learner-centered system not text-book centered system. It is worthy to note that ECD is not only concerned with textbooks and the classroom exams but also equally related with how they learn in home, community and society. In my view, textbook ad pre-packaged learning systems do not work for ECD and primary students. From this angle, there is not much loss incurred by the pandemic on ECD and primary education.
- While producing takeaway home packages, considerations should be put on the publication of multilingual learning materials so that various linguistic groups are not deprived of the learning process.

Ramakanta Sharma, Unit Chief, District Education Coordination Unit, Tanahu

- The positive impacts of the pandemic are that children are able to learn life skills such as cooking, agriculture and washing the dishes while locked inside the home.
- In order to increase the effectiveness of virtual teaching and learning, skills of the teachers should be enhanced. Therefore, teacher training programs should immediately be launched.

Webinar Eight

International Development Cooperation in Nepal: Policies and Priorities of the Government

Background

The MICD-MU has been organizing a series of webinars to impart analytical perspectives on development policy and practice in Nepal. The eighth webinar organized on August 10, 2020 delved on the policy and priorities of the GoN in mobilizing international financial and technical resources for the socio-economic development of Nepal.

The GoN has set several development goals. There are discussions around graduating from a least developed country to a Developing Country by 2022; achieving Sustainable Development Goals and graduating simultaneously to a middle-income country by 2030 and graduating to a high-income country by 2043. For achieving the SDG alone, the GoN on average needs to spend an estimated amount of NRs. 1.111 trillion (11 Kharba 11 Arba) annually. Despite mobilizing increased domestic resources, the government needs to mobilize international cooperation to meet the estimated deficit of Rs.2.18 trillion (equivalent to USD 1.9 billion) annually[16]. The COVID-19 meanwhile is severely affecting the economic growth of the country, which widens this gap even more. This webinar discussed some issues related to policies and priorities for mobilizing international economic cooperation amidst this challenging situation.

The invited speaker of the webinar was Mr. Lal Shanker Ghimire, Economic Development Advisor to the Prime Minister of Nepal.

Opening Session

Welcoming the invited speaker and participants, Dr. Dinesh R. Bhuju described the growing threat of the COVID-19 pandemic on humankind globally, and how it is increasing the vulnerability of the people in resource-

16 NPC. (2020). *The Fifteenth Plan (Fiscal Year 2019/20-2023/24)*. https://npc.gov.np/images/category/15th_plan_English_Version.pdf

poor countries like Nepal. Elaborating on a series of policy dialogues initiated by MICD and other Nepalese experts to review the impact of the pandemic on SDG targets, he posed a question on whether time has come to think about not only revitalizing but perhaps remodeling the international economic cooperation itself, to enable countries like Nepal to overcome the challenges posed by the Pandemic. With this note, he welcomed Mr. Ghimire, the Economic Development Advisor to the Rt. Honorable Prime Minister.

Mr. Suresh Pradhan, the Academic Advisor and Senior Faculty of MICD, introduced Mr. Ghimire to the participants. Mr. Ghimire, who in the previous years, served as the Chief of the International Economic Cooperation Division in the Ministry of Finance, and later as the Secretary of the ministry itself, has an inside-out knowledge on International Economic Cooperation Policy of the GoN and its development priorities. Mr. Pradhan expressed his belief that Mr. Ghimire's knowledge on these issues will help students to understand the contents, policies and modalities and priorities of GoN in mobilizing international financial resources for the socio-economic development of Nepal.

Mr. Pradhan then set the scene for the webinar with his brief presentation on the development goals and targets of Nepal. The 15th Plan of the Government of Nepal has set ambitious targets of achieving equity-based high economic growth of 10.5% in five years compared to 6.8% in 2018-19 (B.S.2075-76); to achieve the national dream of "Prosperous Nepal, Happy Nepali". To fulfill this promise, the GoN aims to mobilize both domestic resources as well as international development cooperation to achieve the national targets of graduating to the status of Developing Countries by 2022 (B.S.2079); reducing income inequality by achieving Gini Coefficient index of 0.36 to 0.29; reducing income inequality ratio between the top 10% and the bottom 40% of income band from 1.30 to 1.25; increasing Gross National Income (GNI) per capita to US$1,595, and increasing HDI to 0.624 by 2080/81 (end of the 15th Plan). Together with achieving the SDG, it aims to upgrade to the Middle-Income Countries by 2030 (B.S.2087); and to transform Nepal in the long run as a developed country by achieving an income status of GNI US$12,100 per capita by 2043 (2100 BS). Substantial spending is required, but there is a huge deficit in the spending capacity of the GoN as mentioned above, for which mobilizing international assistance is necessary.

The GoN has endorsed the new international development Cooperation policy in May 2019, which aims to mobilize international financial and technical resources including grants, loans, and investments to contribute towards the afore-mentioned national targets. In terms of the modality, the policy has set preference first to the international support coming through the budgetary system; second to the area-based support on national priority and needs, third to the program-based international assistance and fourth to the support to other projects included in the national plan is given the fourth preference.

The GoN has focused on achieving high economic growth, increasing production and productivity, creating wider employment opportunities and promoting export-oriented production to achieve these targets. Equally, the GoN is conscious of sharing prosperity through equity-oriented and regionally balanced growth. The GDP of Nepal in 2019 was valued at US$30.64 Billion, which is estimated to contract to nearly $29 Billion in 2020. The growth rate of Nepal as of December 2019 was 7.1 % (the World Bank 2019), which is, according to the Asian Development Bank (2020), estimated to fall to 2.3% in 2020 and 3.1% in 2021 due to the impacts of COVID-19 pandemic.

Presentation Session

With this, Mr. Pradhan handed over the floor to Mr. Ghimire to shed light on the policies and priorities that the GoN will take to meet its development targets. Mr. Ghimire began his note with a bleak picture of the economy. The Post Corona Needs Assessment carried out by the NPC in 2020 estimated that the growth rate would plunge below 1% in 2020-21, pushing 4.38% of the population into absolute poverty, with 1% among them trapped in abject poverty for a pretty long time. He then introduced the three key features of international economic cooperation – (i) that it is a flow of resources in the form of official development assistance (consisting of conditional or unconditional grants), humanitarian aid during natural and humanitarian emergencies; or loans from bilateral or multilateral donors, which should be concessional, not commercial; (ii) to be undertaken by the government only, and (iii) meant for the economic development of the recipient country, and thus excludes any military aid. Elaborating on why donors give aid, he cited compassion, compensation, trade for mutual income growth, access to industrial commodities, securing export market and political reasons as

interests of donors for giving the aid.

The question then arises is should countries like Nepal take aid? He opined that underdeveloped countries still need aid for four reasons – (i) to meet the technical skill gap; (ii) to overcome the deficit in domestic financing; (iii) to maintain the balance of payments (low exports, high imports); and (iv) to implement the global contractual obligations arising from ratifying international conventions. Donors have a bias to capital-intensive projects in financing development projects. The recipient countries therefore can benefit more if they have better negotiation capacity to direct aid to their national priorities rather than the interest of donors.

Comparing desirability of loans, Mr. Ghimire opined that there is no standard threshold as such for the volume of borrowing. While European Countries have a standard threshold for loans not to exceed 3 % of the GDP, he opined that loans are desirable as long as the return from its investment exceeds the cost of the capital (interests and charges). In modern days, where capital and technology recognize no political boundaries, both donors and recipient countries face higher demand for transparency and accountability in the utilization of aid and resources. He opined that countries like Nepal should pay attention to four issues for effective utilization of international economic cooperation:

- To have a policy clarity – what are the development priorities and how to achieve those, - Accountability – collection, update and dissemination of information and data on utilization of aid and other similar resources,
- Skilled human resources – hire and develop human resources capable in designing and implementing programmes and projects, negotiating and allocating resources,
- Acquire resources mix – acquire a mix of unconditional grants, concessional loans, together with attracting commercial loans and foreign direct investments.

Concerning the challenges posed by COVID-19 pandemic, Mr. Ghimire said that while the government priority is focusing on immediate investments on improving health services and short-term immediate employment support schemes, the government is also focusing on mobilizing international assistance to modernizing agriculture (to ensure food security), to industries

that support processing and adding value to agriculture commodities, and energy and employment generation.

Question and Answer Session

Answering the question from the participants, he said that some countries have been able to develop which had (i) sincerity among the politicians and the bureaucracy, (ii) accountability towards implementing the projects in time with quality, (iii) public awareness and engagement in holding the government accountable; and (iv) where the government demonstrates strong negotiation capacity with donors.

Responding to another question on why not to use the liquidity in banks to finance development projects rather than acquire foreign assistance, Mr. Ghimire added that liquidity being a short-term phenomenon, is not a long-term source for financing development. Moreover, the larger development interventions would need a larger volume of financial resources, often available from international sources. Mr. Pradhan added his views at this point that capital, technology and knowledge recognize no political boundaries in the globalized world and it is good for all countries to take advantage of attracting these vital engines of economic development through international economic cooperation.

Mr. Ghimire concluded his presentation and interaction with a note that the GoN has no official policy on graduation to developing countries by 2022, but has endorsed the targets of graduating to a middle-income country by 2030 and to a high-income developed country by 2043. Mr. Pradhan concluded the webinar with a vote thanks to the speaker Mr. Ghimire for his wonderful presentation and to the participants for their insightful interactions.

Webinar[17] Nine

Psychosocial Control and Coping with COVID-19 Pandemic related Stress

Prof. Dr. Usha Kiran Subba[18]

The COVID-19 pandemic has been spread worldwide since first being recognized in Wuhan, a capital city of Hubei province of China in the later months of 2019. It was confirmed as a public health emergency of international concern and later as a pandemic. Early in the pandemic, many people believed that COVID-19 was a short-term illness. Meanwhile, the pandemic has become a severe humanitarian crisis in the modern time of the world. In recent days, the number of infections and fatalities has skyrocketed across the world.

Mental health is an important component in the COVID-19 response as the pandemic has various consequences on mental health. The pandemic acts

17 On the occasion of its 8th anniversary, MICD-MU organized a sustainability webinar series titled 'Celebrating Eight Successful Years' on 7-9 February 2021. The webinars covered three pillars of SDG: social, economic and environmental. It was officially inaugurated with the opening remarks from Professor Dr. Nanda Bahadur Singh, Vice-Chancellor of MU. Three distinguished scholars were invited to deliver the talks. The webinar series begins with the presentation from Dr. Usha Kiran Subba, Professor of Psychology and President of Association of Psychologists in Nepal, on the topic of 'Psychosocial Control and Coping with the COVID-19 Pandemic related Stress'. On the second day, Dr. Dadhi Adhikari, Director and Economist of South Asian Institute for Policy Analysis and Leadership, delivered his talks on 'Nepal: COVID-19 Impacts and Economic Revival'. On the final day, Dr. Sobhakar Dhakal, Professor, School of Environment, Resources and Development at Asian Institute of Technology, Thailand, delivered his presentation on 'Global Trends of CO2 Emissions, Climate Change and the Paris Agreement'.

18 Dr. Subba is a Professor of Psychology and President of Association of Psychologists in Nepal.

as major stressors and poses a risk for the development of various mental, neurological and substance use disorders and it is associated with different neurological and mental disorders. Outbreaks with high mortality and morbidity can result in fear, panic, stigma and social exclusion of people in treatment or recovering from the disease. The COVID-19 pandemic has posed a severe impact on mental health and psychosocial wellbeing and increased psychosocial distress of people all over the world because of non-pharmaceutical public health measures against the pandemic such as lockdown, isolation and quarantine and social distancing. The prime cause of mental health problems is that these non-pharmaceutical public health measures disrupted various services, forced us to work from home, disrupted social networks, halted social gatherings and shut down educational institutions.

Along with its high infectivity and fatality rates, the COVID-19 pandemic has caused universal psychosocial impact by causing mass hysteria, economic burden and financial losses. Mass fear of COVID-19, termed as "corona phobia", has generated a plethora of psychiatric manifestations across the different strata of society.

The COVID-19 pandemic has become a significant global crisis that requires individuals, organizations and nations to take the necessary steps to cope. Quarantine has been a vital public health strategy during the pandemic. While it may help reduce disease transmission, it also has psychological effects, the anxiety of not knowing what the future holds can be worse than the actual situation itself. In this regard, the American Psychological Association (APA) reports on the negative impact of quarantines and isolation, determining priorities to be minimizing quarantine lengths and making sure isolating people have access to what they need.

The MindSpot, a digital mental health clinic in Australia, lists ten psychological tips for coping with COVID-19. These tips are: i) getting informed with the right information, ii) getting organized, iii) balancing your thoughts, iv) shutting down the noise, v) understanding history, vi) reminding yourself of who you are, vii) maintaining healthy routines, viii) staying engaged and connected with the people around you, ix) spending time doing enjoyable activities and hobbies, and x) keeping looking forward.

While we are all hoping and waiting for things to return to normal, the mantra "this time will pass" can be helpful. Additionally, we know the sooner people start managing their stress; the less likely they are to suffer long-term mental and physical health outcomes. Health psychologist Kari Leibowitz explains, "Once you put it in people's heads that mindsets exist, and that you have control over your mindset -- I think that's tremendously powerful" and this mindset will continue to serve well in many aspects of life.

These are unprecedented times and it is expected to have a lot of mixed feelings. We need to work extra hard to manage our emotions well. Naturally, we feel anxiety, depression, stress and maybe waves of panic, particularly when seeing new headlines. The moments of hope and resilience can be found all around us despite the uncertainty. Some tips to reduce mental health problems like anxiety, depression, stress, panic and others are:

- Limit media use to reduce anxiety; the media often creates an exaggerated impression of global panic. Circulate warm and comforting social support through video, mobile phone and text.
- Get connected with others through creative engagements such as hosting virtual book clubs which can create feelings of connectedness.
- Loving and caring for our pets can be a phenomenal stress reduction method.
- Finding ways of expressing kindness, patience, and compassion creates more purpose to our days and well-being.
- Create new routines and keep practicing health behaviors. Remember that our activities, thoughts, and mood are closely linked.
- Good nutrition helps our mood. Stress makes us seek comfort foods, and in turn high carbs and sugars impact our mood. Many population-based studies show that a Mediterranean diet has been linked to better mental health and stress resilience, whereas a junk food- western diet is linked to depression and anxiety. Try to fill your home with fresh vegetables, and whole foods when possible.
- Work well enough from home.

Acute, short-term stress is not necessarily bad, and, in fact, can be good. We can approach stressors with a positive mental view that we can cope well, that we have the resources. We can also view the physical stress response as one that

helps us perform better, such as increasing oxygen to the brain. Stress arousal reduction can happen through physical exercises and breathing practices.

Frontline medical workers and service providers are also at risk of developing traumatic stress symptoms. These acute stress reactions are natural, but it is important to promote self-care, social support, and sleep, in order to prevent prolonged psychological consequences such as post-traumatic stress disorder and depression.

Moral injury is an important framework to help understand the mental health impact associated with the current COVID-19 pandemic. Moral injury can happen both from actions and inactions. For example, isolating oneself away from loved ones due to COVID-19 illness can cause distress. Witnessing upsetting situations and not being able to help may also result in moral injury. For instance, witnessing loved ones get sick and not being able to intervene with love or support due to risk of contagion and being a patient in a hospital and feeling helpless while hearing others around us in distress. Recognizing moral injury and associated grief, this pandemic will not only take a physical toll, but a tremendous psychological toll. If some family members are in isolation, try to communicate in safe ways through mobile phone and internet calls, offer support, and check in about mental well-being.

Research Findings

I and a post-doctoral research fellow from India recently conducted research on emotional and behavioral issues during the pandemic. Our study found that the female population experiences a more dreadful impact of the pandemic than their male counterparts. Therefore, women are at higher risk of depression and/or anxiety.

Moreover, our study shows that people were engaged in negative thoughts and used more coping and craving activities to deal with the pandemic. In addition, respondents felt an emptiness in their life as well as an arousal of negative thoughts during the nationwide lockdown. Plus, people were experiencing more psychological symptoms and 'Corona phobia' with negative alterations of cognitive functions, sleep difficulties and personal space issues.

A study on Nepalese women's depression coping style focused on the coping

strategies used by women when facing a difficult or stressful situation shows that the majority of women (52.1%) from the Terai area used spiritual methods (52.1%) to cope with the stressful situation. Religious coping strategies are useful in providing a sense of control, hope, and better adjustment. Common practices include prayers and trust in god. 37.5% of respondents used emotional methods of coping. Women tended to blame themselves and reported crying, becoming irritable, and confronting their feelings when depressed. P. A. Thoits in 1995 wrote that women use more social support-seeking strategies than men counterparts. Problem-focused coping is more beneficial to well-being than emotion-focused coping. Nevertheless, Folkman and Lazarus elaborate the problem-focused coping as 'dealing with the problem that causes the distresses' and emotion-focused coping as 'regulating the emotions by an individual.

Yoga and singing could help relieve depression and anxiety symptoms. Meditation could relieve depression symptoms but not anxiety symptoms. However, there is growing evidence to suggest that meditation by singing releases emotions. Yoga can be good physical exercise (e.g. improve cardiopulmonary function), and alleviate negative emotions. At the same time, it also has positive influences on anxiety symptoms.

Suggestions

We should accept our feelings such as anger, frustration, fear and loneliness, which we are all feeling because of the COVID-19 pandemic. Without acceptance, we cannot move on or overcome such feelings and suppression may lead to mental health problems. So, practice accepting what you're feeling, and validate that others are also feeling the same. We can tap into our inherent goodness more easily if we can accept our feelings. We should spend time with ourselves and with loved ones together at home.

Our dharma today is the first and foremost to follow the guidelines being enacted by our local government and our national government to protect us, our families, and our communities. In our context, the principles of dharma are: Satya (truth), Ahimsa (non-harming), Karuna (compassion), and Aparigraha (non-greed). Making decisions while letting go of expectations of the results can bring much-needed clarity and peace.

Psychologists have also focused objectively on observable behaviors (Karma) and discount any independent activities of the mind. Behavior theorists define learning as nothing more than the acquisition of new behavior based on environmental conditions. Behavior is formed by people's interactions with others and with the culture they live. Lev Vygotsky's cognitive development theory believes that parents, relatives, peers, teachers have an important role in the process of learning.

Behavior is a product of the learning process. It can be learned, can be unlearned, relearned and modified according to the demanded situation. Many learning theories are postulated. Operant conditioning describes how we repeat behaviors that bring pay off to us. It is based on Edward Thorndike's Law of Effect. The law of effect orates that we will repeat an action if it is followed by a good effect. On the other hand, Albert Bandura is a leading contributor to social learning theory in which many of our actions are not learned through conditioning; rather, they are learned by observing and imitating others.

Behaviorists categorized learning as new learning, unlearning and relearning. At the moment, it is time for Nepali to relearn our cultural pattern of behavior for example i) maintain distance when you are together with others, ii) wash hands always when you touch something, iii) keep kitchen pure and clean and not letting others to enter in it, iv) keep your shoes outside the home, v) greet people by joining your palms of hands together what we call Namaste, and vi) follow the concept of hot and fresh food. As explained above, Vygotsky's theory argues that cognitive abilities are socially guided and constructed. So, culture serves as a mediator for the formation and development of specific abilities, such as learning. Learning is greatly influenced by how children and young people interact with the culture. People should relearn the unlearned behavior to combat the COVID-19 pandemic i.e. maintaining social distancing—is imposed on individual people for the benefit of our fellow citizens. My behavior may affect your chance of contracting the disease and your behavior affects mine. These sorts of collective action problems have been studied by behavioral psychologists for several decades.

Nevertheless, we have the ability and responsibility to take care of ourselves holistically- physical, mental and spiritual. Nourish yourself with exercise and

food. Enjoy and use your time to perform creative and productive tasks that may help you to move towards your values and dharma. It is important to find both meaning and joy in this hour of the pandemic.

Puja (a way of worshipping the gods and goddess) is a combination of various acts and these acts are of devotional call upon all our senses: the smell of Dhup (olfactory nerve), the reverberation of a bell (auditory vestibular nerve), visually pleasing Murti (idol) (optic nerve), the sensation of bringing our palms together (cutaneous), and the taste of Prasad[19] (gustatory). This puja can be a lovely way to overcome stress.

Psychologists have proven, what we know instinctively, that music can decrease stress, and bhajans (devotional songs) with their uplifting lyrics can bring peace of mind. Expressions of art and dancing may be engaging tasks and may inspire to live a lively life.

Be careful of your distress and consider when you need help from counselors and other experts. Sometimes the feelings of aches and pains may be related to depression, anxiety and stress. If you feel like you cannot control your recurring thoughts, and are experiencing physical symptoms of anxiety-like sweating palms or shallow breathing, palpitation, you are advised to consult with the experts. There are many psychologists, psychotherapists, and counselors who can listen and cure your problems and advise you what you need to do and how to do it.

19 Prasad is edible food offered to the deity.

Webinar Ten

Nepal: COVID-19 Impacts and Economic Revival

Dr. Dadhi Adhikari[20]

As of February 7, 2021, there are altogether 271, 925 COVID-19 cases reported in Nepal. Out of which, 268, 072 are recovered cases. Nepal reports 2038 deaths from the COVID-19 till February 7. Dissecting the data along the geographical region, the higher number of COVID-19 cases are reported in the Terai region of Nepal whilst the mountain region reports a low number of cases. The reasons for low cases in the mountain may be due to the low population and climatic conditions. The optimism is that Nepal has begun the COVID-19 vaccination drive on January 27, 2021. The first batch of one million vaccine doses arrived in Nepal from India as grant aid. According to government statistics, over 184, 000 have already been vaccinated. There is good news from China that it would provide three hundred thousand of vaccine doses as grant aid.

Economic impact of COVID-19: what did we predict?

The impacts of the COVID-19 pandemic in the national and global economy had widely been discussed not only in Nepal but also across the globe. What did we predict? The economist forecasted that the worldwide economic recession caused by the pandemic was more severe than the recession experienced during the 1930s great depression and World War II. Fortunately we could observe a quick economic recovery. Hence, we can, at the moment, guess that the kind of severe economic recession as predicted earlier is not likely to happen. What were the major themes of those predictions in Nepal? Those themes include:

- Unemployment will go up.
- Poverty will increase.
- Remittance will go down.
- Prices will go up and there will be food shortages.

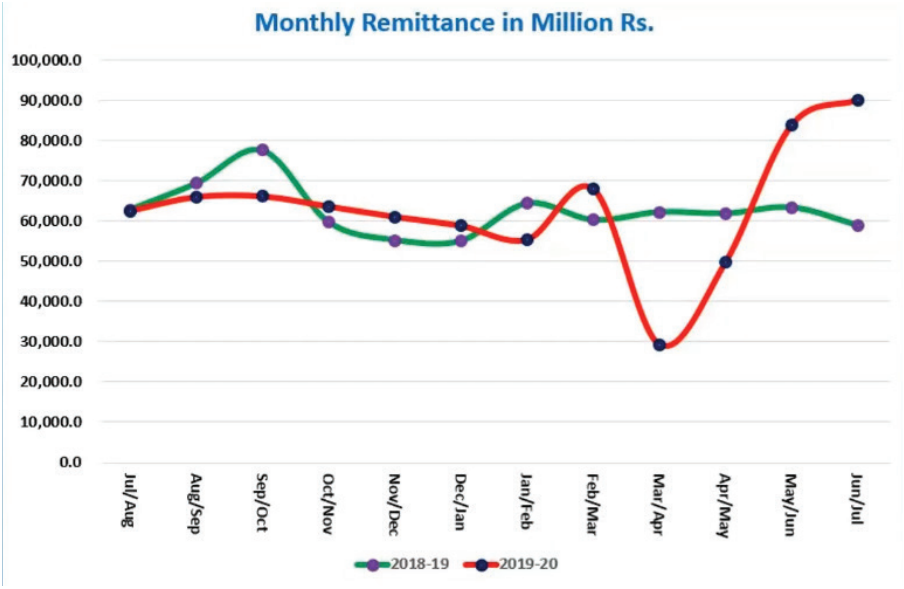
20 Dr. Adhikari is the Director of South Asian Institute for Policy Analysis and Leadership.

- GDP will decline.
- Public health system will deteriorate.
- Education sector will badly be affected.

No doubt, the nationwide lockdown has increased unemployment in Nepal. Increasing numbers of people working in informal sectors have lost their jobs. The data says that about 4.5 million people work in the informal sector. Out of which, 170 thousand people do not own land. Those 170 thousand people suffered a lot during the lockdown in Nepal. According to the NPC, 1.6 million people lost their jobs. A study of Nepal Rastra Bank (NRB) shows that the industrial sector laid off 22.5% of employees, of which 71% were in contract. The higher job losses occurred in SMEs, which means low income or low-waged people were at the front position in the list of job losses. In another study of NRB, it is estimated that it will take nine months for the industrial sector to return back to its normal position if non-pharmaceutical measures like lockdown ends. The tourism sector will take more time for its economic revival that may need thirteen to fourteen months. Meanwhile, hotels and restaurants laid off the highest percentage of employees i.e. 40% followed by water and electricity i.e. 39.7%.

According to Amartya Sen, the pandemic affects poor people the most and there are two reasons behind it. First, nationwide lockdowns will cause problems to the lives and livelihoods of the poor as they do not have sufficient food stocks and financial savings. The loss of jobs will further cripple their lives and livelihoods. Second, the voice of poor people will remain unheard and it is the duty of the media to unpack their problems into the public. In the context of Nepal, there is a lack of accurate estimation of the increase of poverty due to the pandemic. But the NPC estimated that an additional 1.2 million people became poor. According to the WB, the poverty level will reach 31% in Nepal. In this context of increasing poverty, there would be higher possibilities that Nepal may not achieve the targets of SDG by 2030.

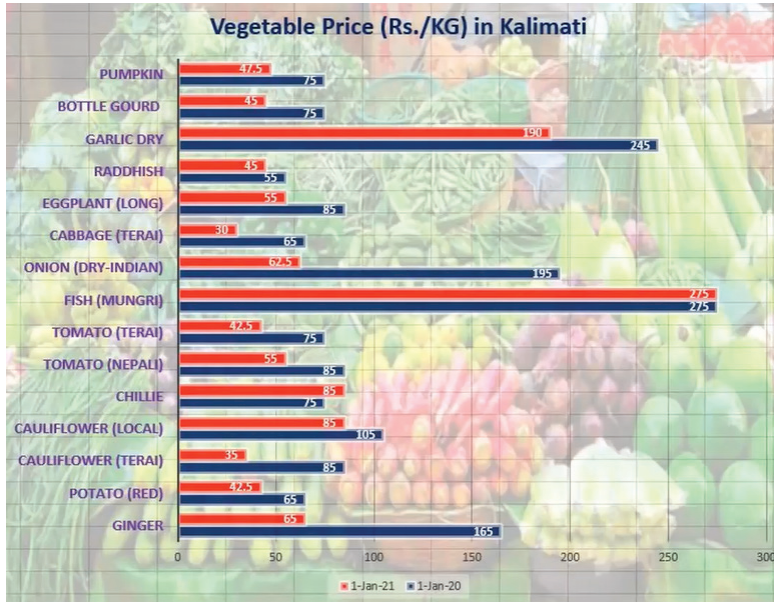
Figure 11.1 : Monthly Remittance Received by Nepal



It was expected that remittance would decline sharply. As per WB prediction, the remittance will go down by 12% in Nepal. It was estimated that the Nepali economy will suffer due to a decline in remittance. Also, Nepali migrant workers will increasingly lose their jobs abroad and return back to their home country. This will ultimately augment the unemployment inside the country. But the reality was different from the predictions. Figure 11.1 shows the comparison of monthly remittance received by Nepal between the fiscal year 2018/19 and the fiscal year 2019/20. In total, the remittance was increased by NRs. 4 billion in the fiscal year 2019/20 in comparison to 2018/19. What are the reasons behind this increment? Several assumptions have been made which let Nepali migrant workers stay in the host country and continue their work. First, considering the poor health system and services in Nepal, the migrant workers may be reluctant to return back to their home country in the midst of skyrocketing infectious cases. Even if the workers were willing to return back, they were barred by poorly managed rescue flights and transportation of the Nepali government. Second, the pandemic may not have affected the daily business of industries in the host country allowing their normal working hours. However, I would suggest rigorous academic research in order to locate

the genuine reasons for the increment of remittance during the lockdown despite an initial prediction of higher reduction.

Figure 11.2 : Vegetable Prices in Kalimati-Kathmandu, Nepal



It was assumed that the pandemic will negatively affect the food availability, which may significantly increase the price of the food. This was simply calculated on the basis that food production activities would be halted because of non-pharmaceutical measures adopted to combat the pandemic. As a result, demand for food will go up and the supply side will be reduced. But the statistics tell a different story. The figure 11.2 shows the comparison of the price of vegetables in the Kalimati market of Kathmandu between January 1, 2020 and January 1, 2021. It narrates that the price of vegetables declined rather than increased as predicted before. Personally, I also felt that the price of food has declined when I visited the market for our household grocery shopping. From the economic point of view, the possible cause of the decline in food prices may be that the pandemic has reduced family income which ultimately has decreased the demand. Another point of view is that the pandemic has low impacts on the agriculture sector and farmers at the village

did not stop ploughing their lands. This might have increased the supply side of the vegetable by lowering the price of the food.

The CBS estimated the expected loss on GDP due to the adverse effects of the pandemic in the fiscal year 2019/20. According to the CBS data included in figure 11.3, wholesale and retail trade (29891), construction (19520), transport and communication (19394), manufacturing (17200) and hotel and restaurants (12567) have incurred the highest loss from the pandemic. Despite the prediction of loss, my view is that there would be no impact in Nepali GDP from the pandemic because there is no reduction of remittance inflow, a major pillar of GDP. Moreover, a big chunk of remittance is spent on consumption within Nepal. In the similar line, the WB estimated that Nepal's GDP will increase by 0.6% in the upcoming fiscal year. From the theoretical lens, if GDP increases, then tax revenue will automatically go up. Therefore, the tax regime of Nepal will have low impacts from the pandemic.

Figure 11.3 : Expected Loss from COVID-19 based on Macro-Economic Indicators in Nepal

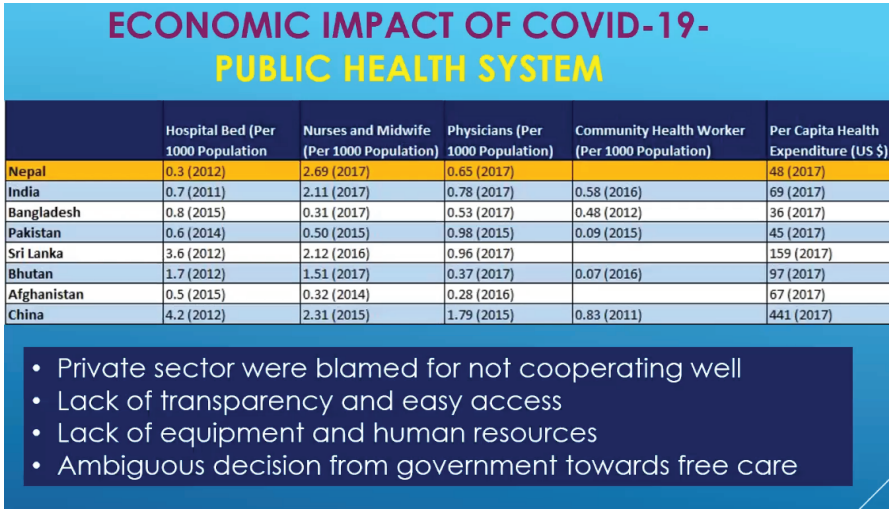
Expected Loss from Corona based on Macro Economic Indicators (In million Rs)

	Industrial Classification (ISIC 3)	Year 2019/20 (2076/77)			
		Share in GDP	Expected	Estimated	Loss
A	Agriculture and forestry	27.08	915728	906754	8974
B	Fishing	0.57	19972	18942	1030
C	Mining and Quarrying	0.55	19566	18384	1182
D	Manufacturing	5.09	187644	170444	17200
E	Electricty gas and water	1.41	50770	47058	3712
F	Construction	7.23	261518	241997	19520
G	Wholesale and retail trade	13.89	495096	465205	29891
H	Hotels and restaurants	1.41	59683	47116	12567
I	Transport, storage and communications	6.42	234439	215046	19394
J	Financial intermediation	6.62	222985	221710	1275
K	Real estate, renting and business activities	11.85	405028	396877	8151
L	Public Administration and defence	3.17	105995	106079	-84
M	Education	7.67	260456	256709	3748
N	Health and social work	1.86	62322	62383	-61
O	Other community, social and personal service activities	5.18	178285	173552	4733
	Total	**100**	**3479487**	**3348256**	**131231**

It is essential to quote that the availability of resources is not enough but the important thing is how better we use the resources or how effective is our

mechanism to manage the resources. During the pandemic, we heard a lot of grievances from the public regarding the health system and services in Nepal. For instance, private sectors were blamed for not cooperating well with the government and public. Similarly, there was a lack of transparency while procuring the medical equipment and services. In addition, the patients and hospitals complained of insufficient equipment and human resources to deal with the COVID-19 pandemic. Also, the havoc was created by the ambiguous decision from the government towards free treatment and care.

Figure 11.4: Public Health System across China and South Asia



	Hospital Bed (Per 1000 Population	Nurses and Midwife (Per 1000 Population)	Physicians (Per 1000 Population)	Community Health Worker (Per 1000 Population)	Per Capita Health Expenditure (US $)
Nepal	0.3 (2012)	2.69 (2017)	0.65 (2017)		48 (2017)
India	0.7 (2011)	2.11 (2017)	0.78 (2017)	0.58 (2016)	69 (2017)
Bangladesh	0.8 (2015)	0.31 (2017)	0.53 (2017)	0.48 (2012)	36 (2017)
Pakistan	0.6 (2014)	0.50 (2015)	0.98 (2015)	0.09 (2015)	45 (2017)
Sri Lanka	3.6 (2012)	2.12 (2016)	0.96 (2017)		159 (2017)
Bhutan	1.7 (2012)	1.51 (2017)	0.37 (2017)	0.07 (2016)	97 (2017)
Afghanistan	0.5 (2015)	0.32 (2014)	0.28 (2016)		67 (2017)
China	4.2 (2012)	2.31 (2015)	1.79 (2015)	0.83 (2011)	441 (2017)

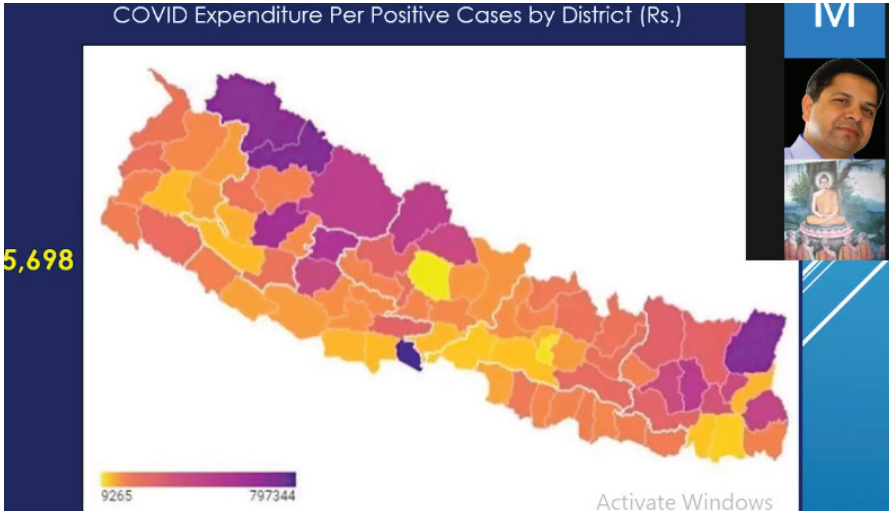
There are approximately 9 million students in the schools, colleges and universities across Nepal. Due to the closure of schools, colleges and universities, the face-to-face classes have been replaced with virtual classes across Nepal. The students from well-off families and urban locations have easy access to technology-driven education whilst the students from poor and disadvantaged groups and rural locations hardly have access to technology-driven education during the pandemic. In Nepal, only 17% of people have wired broadband access and 55% have mobile broadband access. This unequal access to education undoubtedly deteriorated the quality of education which will ultimately have long-term negative impacts. These long-term impacts may bar Nepal from achieving the targets of SDG 4 by 2030.

How did Nepali Government Respond to COVID-19 Pandemic?

The pandemic has revealed that we are ill-prepared to deal with the disasters even though Nepal recently experienced the terror of 2015 earthquake. We have not learned more lessons from the 2015 earthquake. Talking specifically, our responses to combat the COVID-19 pandemic are not much appreciable. There is mismanagement of quarantine and isolation centers designed to keep COVID-19 patients in order to prevent transmission. However, it was found that the spread and transmission of the pandemic has happened from these centers in most cases. Also, we could not manage and control people movement across the Nepal-India borders.

Regarding the expenditure, the government spent a total of NRs. 13.37 billion to combat the pandemic. The per capita positive case was NRs. 45, 698 in Nepal. Dissecting the expenditures by district of Nepal, the expenditure per positive case ranged between NRs. 9265 and NRs. 797, 344. The figure 11.5 shows that the mountain districts like Taplejung and Humla spent a higher budget whilst Terai districts spent less. At the municipal level, there were reports of the scandals of widespread corruption while handling the pandemic.

Figure 11.5: COVID-19 Expenditure Per Positive Cases by District in Nepal



According to De Ceukelaire and Bodini (2020), the effective containment of pandemic requires following things:

- Trust of patients, health care professionals, and society as a whole in government
- Implementation of well-planned management strategies and structure
- Taking steps to support health care delivery and financing: strong public funded primary health care system for effective contact tracing

The world's experiences say that it will be difficult to contain the pandemic until and unless the government can win the trust of public and health care professionals. In the case of Nepal, we witnessed both trusts enhancing and trust depleting activities of the government. The trust enhancing activities were:

- Nepal devised legal framework relating to the pandemic in line with the WHO standards
- Institutional arrangements were made in accordance with WHO guidelines.
- Some hospitals were designated as COVID-19 hospitals.
- Quarantine, testing and treatment were offered free of cost for a few months.
- Rescue of Nepali students from Wuhan, China indicating responsiveness of the government
- Transparency of data through regular press briefings and updates in the Ministry of Health and Population (MoHP) website.

The trust depleting activities were:

- Poor transparency of resource allocation/utilization
- Delays and lack of support in the rescue of Nepali migrants abroad, mostly from Middle East
- Poorly managed quarantine facilities, especially of migrant workers returning from India
- Distribution of relief materials, in the initial weeks of lockdown, of very poor quality and quantity
- Spreading scientifically un-validated information by people in responsible positions
- Inadequate and lack of support to thousands of jobless people and returnees and thousands of them again back to India in search of employment, despite the risk of contracting infections

- The allowances promised to the health workers are not paid or not paid on time
- 'Enough is enough' became the people's voice to urge the government to perform better.

Revival Strategy

In the above paragraphs, we discussed the major impacts of COVID-19 pandemic and how Nepali government responded to it. What should be Nepal's revival strategies i.e. based upon the lesson learned from the pandemic? First, Nepal should strengthen the public health system. For this to happen, the following recommendations are made:

- Increase health facilities and human resources
- Ensure access to health for all
- Increase research and development relating to the public health
- Recognize that public health is the government responsibility

The pandemic has disrupted our existing education system. In order to strengthen the education system, the following strategies by the government are necessary:

- Allocate the additional investments to the educational institutions at the local level
- Implement school zoning system
- Enhance the quality of public schools
- Ensure equal access to education for all during the crisis

During the pandemic, it was assumed that the agriculture sector will revive in Nepal because an increasing number of youths returned back to the village and they will actively participate in agriculture activities in their lands. But this did not happen. In Nepal, the prices of agricultural products are not competitive in the market because of land fragmentation, low mechanization, small-scale production, high production cost and lack of timely availability of agricultural inputs. In order to ensure large scale agricultural production and competitive prices of agricultural products, the following activities should be initiated for the development of the agriculture sector in Nepal:

- Initiate land bank, contract farming and group farming system
- Improve overall governance of the agriculture sector by focusing on:

- Financial incentives based on quality inputs (seeds and fertilizers) and output
- Insurance schemes to reduce vulnerability to shocks
- Restore widespread extension services
- Productivity augmenting infrastructure such as roads and irrigation
- Reimburse post-harvest loss

- Make rural area attractive to live
- Develop agriculture sector for the period of crisis

Infrastructure development is the most important and we need to focus towards this end. In this regard, the government should provide enough funds to the local government for developing infrastructure. It should also initiate food for work programs so that poor people will work for infrastructural development in exchange for food. The other revival strategies should be:

- Promote digital technology
- Good governance and austerity measures are required
- Strengthen federal system
- Nepal should strengthen social security measures. Better social security measures require a good data system and communication. During the COVID-19, 119 countries across the world spent approximately USD 790 billion in social security. There are three types of social security programs. They are:
  - Social support program (Cash transfer, food support, mid-day meal, food-for-work, food voucher etc.)
  - Social insurance program (health insurance, pension, unemployment compensation etc.)
  - Intervention in the labor market (wage support, paid training etc.)

Webinar Eleven

Global Trends of CO_2 Emissions, Climate Negotiation and Paris Agreement

Professor Shobhakar Dhakal[21]

I deal mostly with energy management and energy policy, particularly with climate change policy. These are very important topics, even for Nepal, because energy is a very crucial issue for Nepal, particularly energy security. Also, climate change is very important because Nepal is one of the countries which is very much vulnerable to the impact of climate change. Although our Carbon Dioxide (CO2) emissions themselves are not that big, getting engaged into emissions mitigation is important for all countries without which we cannot solve some of the biggest problems that humanity has faced. At the same time, by engaging into the carbon mitigation issues, it also provides some kind of leverage in getting climate financing and lots of other so-called co-benefits or auxiliary benefits of climate change mitigation. This is why engagement in the climate change mitigation process is very important for us. Now, Nepal has also been quite active in many aspects of climate change. In this background, I have chosen topics for this webinar as 'Global trends of CO2 emissions, climate negotiation and Paris agreement'. I am addressing two questions:

1. What are or have been the historic trends of global emissions? Who are the top Greenhouse Gas (GHG) emitters? Which sectors emit most and why?
2. What has been the history of climate negotiations? How has it evolved?

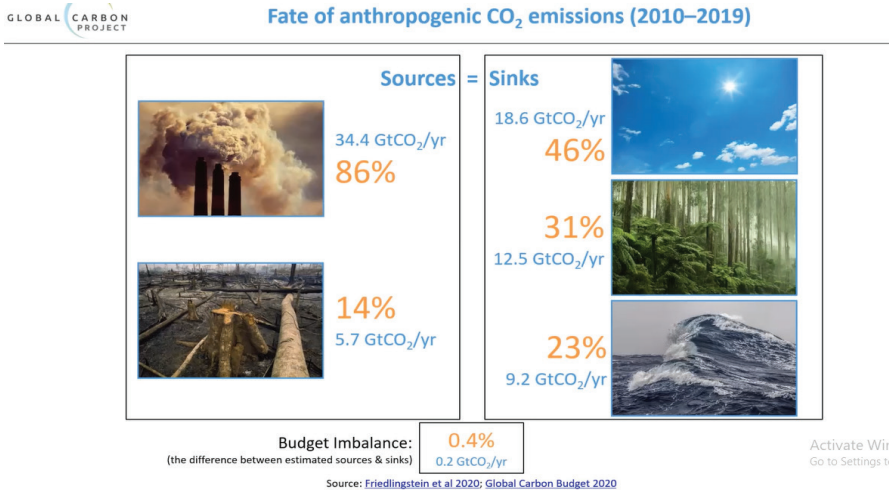
Trends of Global CO2 Emissions

I just want to make all of us aware that whatever CO2 emissions we emit into the atmosphere, not all CO2 emissions stay in the atmosphere. For example, if we emit one tonne of CO2 into the atmosphere, then only 46% of that stays

21 Professor Dhakal is the Vice President for Academic Affairs in Asian Institute of Technology, Thailand.

in the atmosphere and the remaining 54% (roughly) is taken back by natural things, especially land and ocean. So, this is a very important aspect because if the capacities of the sink to uptake CO_2 from the atmosphere decline and in order to stabilize the climate change in this case we have to mitigate more emissions. That's why, in this carbon cycle discussion CO_2 uptake by land and ocean from the atmosphere is also equally important. Therefore, the issue of deforestation avoidance and land use change is very important in climate discussions. In case of climate change, the concentration of GHG in the atmosphere is important and the concentration builds over time. But today we focus a little bit more on the emissions side rather than what happens to the emissions after it is released into the atmosphere.

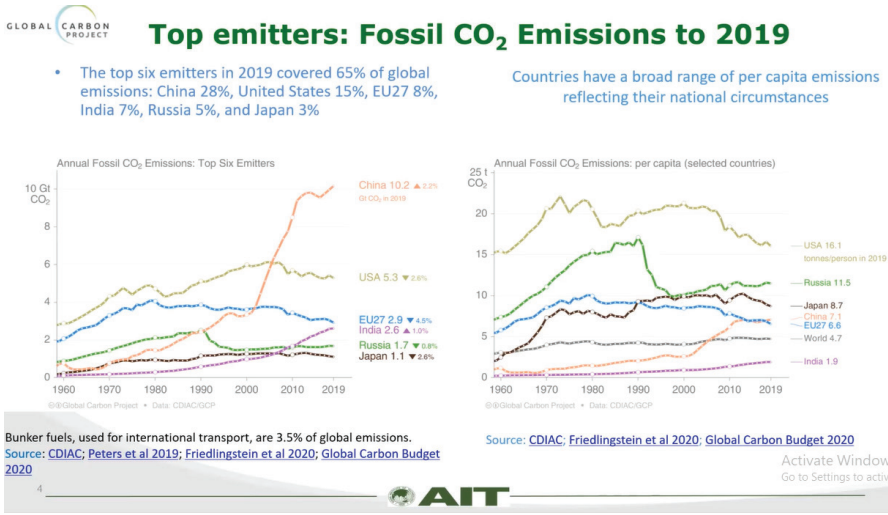
Figure 12.1 : Fate of Anthropogenic CO_2 Emissions (2010-2019)



Globally, our CO_2 emissions have increased dramatically. Figure 12.2 shows this increasing trend since 1960. After the year 2000, the emissions from China started really growing up and as a result, a global emissions profile also grew up. The top six emitters globally include China, the US, European Union (EU), India, Russia and Japan. They cover almost 65% of the global emissions. China contributes almost 28% of the global CO_2 emissions from fossil fuels. Hence, these top emitters are very important in any climate change-related negotiations or any efforts to reduce climate change. But these statistics have to be looked at a little bit differently as well.

The diagram in the right side of figure 12.2 shows the CO_2 emissions per capita (per person). Yes, China has the highest emissions. But in terms of per capita emissions, China is still much lower than the US, Russia and Japan. However, the per capita emissions of China are now catching up with the EU and it has already surpassed the EU. So, China is now slowly surpassing many developed countries including 27 countries of the EU. India has of course much less i.e. 1.9 tonnes of CO_2 emissions per person which is very much below the world average of 4.7 tonnes per person. Nevertheless, India contributes 2.6 billion tonnes of CO_2 emissions in 2019 and it is increasing rapidly. So, we can expect that India's emissions profile is also going to be quite big in the future if the low carbon development could not happen in India. These per capita emissions are very important in any climate negotiations because it brings the question of justice, equity and fairness also.

Figure 12.2 : Top Emitters: Fossil CO_2 Emissions to 2019

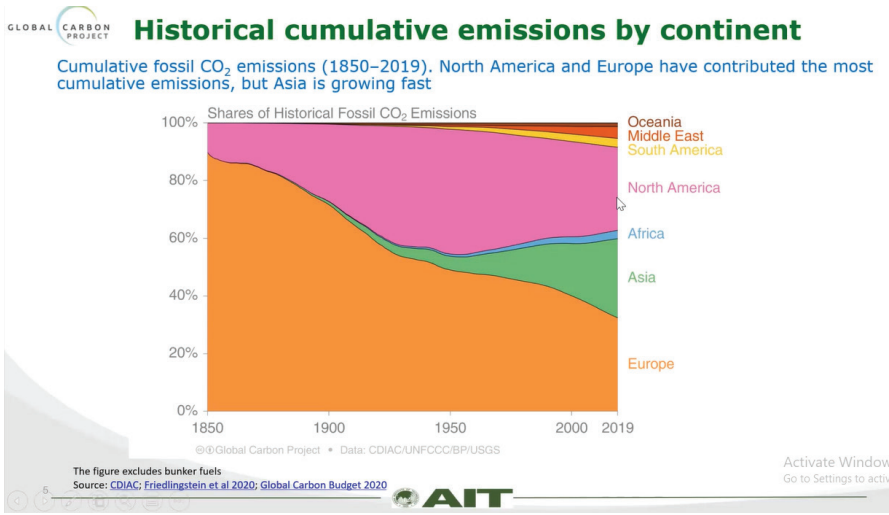


The emissions from developed countries like the US, EU and Russia are declining over the years. But in the case of developing countries, the emissions are increasing. That's why the nature of the debate has also changed recently. For example, when we started a discussion about climate change in 1990, 65% of global emissions were contributed by the developed countries and around

35% by developing countries. But in 2019, that structure has completely changed. The share of developing countries is much higher than the developed countries. This is also reflected in climate change negotiations that without the role of developing countries and without the developing countries taking part in the emissions reduction efforts, we really cannot reduce climate change to the level which avoids the dangerous anthropogenic interference to the climate system.

There are lots of discussions about the historical cumulative emissions. There is a lot of saying that the developed countries are the one which created all this climate change because lots of coal based industrial revolutions happened in the developed countries after the industrial revolution in 1750. The developed countries used so much coal and oil in the past, particularly coal, and the already happening climate change is because of the developed countries. Figure 12.3 shows the historical cumulative emissions by the continent up to 2019; Europe and North America are still responsible for huge amounts of cumulative emissions. This data represents the CO_2 emissions tracking from 1850 onwards. The important point is that the historical cumulative emission is rising in Asia. By 2050, it is expected that Asia is going to be very dominant. From the historical cumulative emissions perspective, the huge amount of emissions from the developed countries in the past caused climate change. However, the developing countries are the ones which are going to be more and more responsible for the next several decades. So, this brings the argument that we all need to work together and we cannot throw our problems to only developed countries and without the meaningful contribution of developing countries to the emissions reduction discussion and efforts, we cannot control or address the dangerous climate change. This is a very important aspect in climate negotiations. Later on, I will show how we moved from the United Nations Framework Convention on Climate Change (UNFCCC) discussion from the mechanism such as the Kyoto Protocol in 1997 to the Paris agreement of 2015. In the Kyoto protocol, we said that only developed countries will mitigate the emissions but while coming to the Paris agreement irrespective of developed or developing countries everybody has agreed that we have to do our fair share. So, the nature of the debate has also changed over the years.

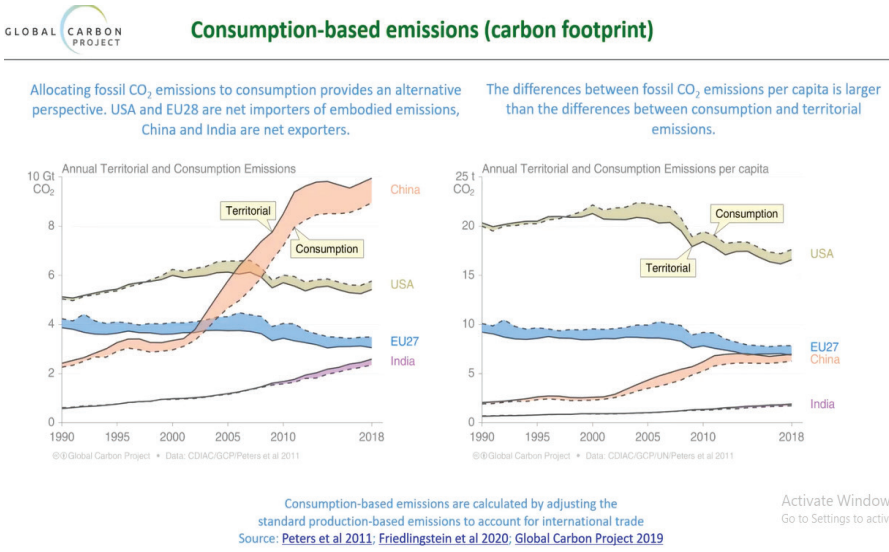
Figure 12.3 : Historical Cumulative Emissions by Continent



Another sticking point in many of these climate negotiations is the question of responsibility. During offline conversations, some of the Chinese climate negotiators and researchers have argued that China emits lots of emissions because there is huge demand for goods and services from developed countries like the US and Japan. They further said China only emits because the demands come from developed countries like the US, European countries, Japan and South Korea. The difference between territory-based and consumption-based emissions is very important. Territory-based emissions are the actual CO_2 release within a national territory that includes CO_2 exports but excludes CO_2 imports from international trade. On the other hand, consumption-based emissions are the CO_2 emissions accounted for or allocated to the consumption side whoever consumes goods and services. More specifically, it is the allocation or accounting of CO_2 emissions not to that particular territorial principle but to the consumers who consume those goods and services and it also includes CO_2 imports from international trade. The figure included in the left side of figure 12.4 shows China's territorial emissions and consumption emissions. The territorial emissions are represented in the solid line and the consumption emissions in the dotted line. In the case of China, the solid line is above the dotted line which means that CO2 emissions from the territorial principle is higher than the CO2 emissions from the

consumption principle. The gap between the solid line and dotted line means that the amount of emissions that China emits in order to meet other countries demands for goods and services i.e. CO_2 emissions embodied in international trade. But in the case of the US and EU, the dotted line is higher than the solid line which means that the emissions responsibility of the US and EU is much higher than what it looks only from the territorial emissions and this means they consume more goods and services. So, this brings the question of carbon emissions into international trade and responsibility. For example, if the developed countries like the US and EU consume less and consume responsibly, then higher emissions from china may not happen. In order to make a low carbon society, the consumer has equal responsibility or even more responsibility compared to the producers because if the consumers do rational consumption choices, then the CO_2 mitigation would easily happen. This brings the question of consumption saying that we have to change our lifestyle and we have to change the way we consume.

Figure 12.4: Consumption Based Emissions (Carbon Footprint)

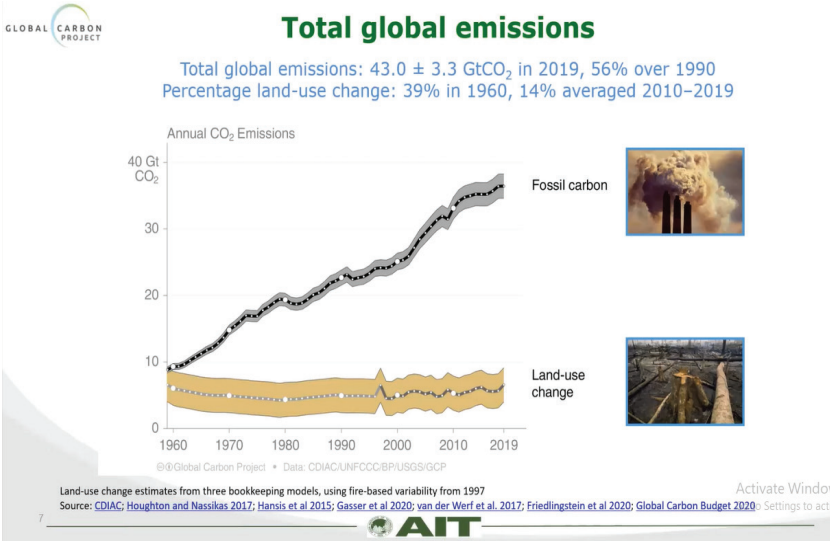


The figure included in the right side of figure 12.4 shows the annual territorial and consumption emissions per capita. India has lower per capita emissions as discussed earlier. But again China is already catching up to the EU. The US

has the highest per capita emissions. It is a very energy intensive society and the emission pattern is quite high in the US.

In 2019, we emitted total global emissions of CO_2 of around 43 billion tonnes into the atmosphere, which is quite huge. Compared to 1990, we have increased the total global emissions by almost half (56%) despite all the noises about climate change. We have been talking a lot on climate change and discussing and implementing lots of activities and initiatives but the emissions kept on increasing. Therefore, this is a big source of concern for all of us. Land use change emissions, on average, are 14% of the total CO_2 emissions of the period between 2010 and 2019. There are different models to estimate CO_2 emissions from land use change but the range of uncertainties in it is very high. Land use change happens mostly from tropical deforestation.

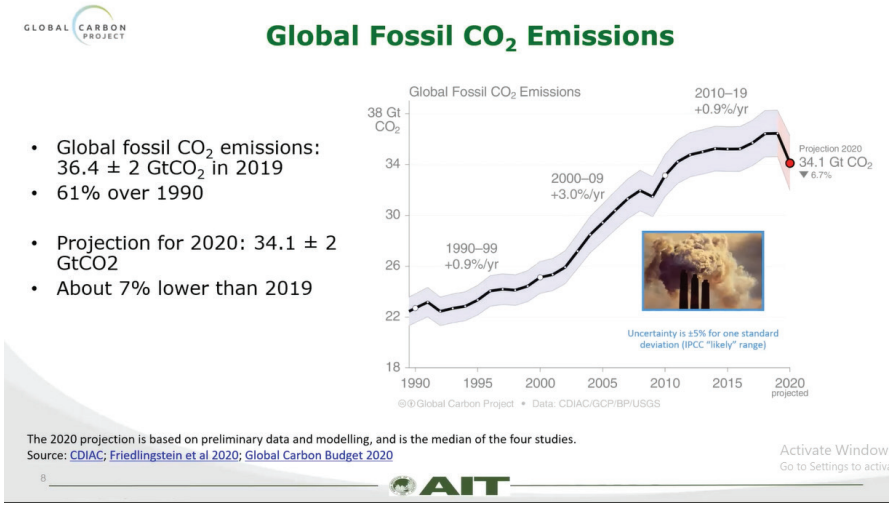
Figure 12.5 : Total Global Emissions



In 2019, the total global fossil CO_2 emissions are about 36.4 billion tonnes. It has been predicted that 34.1 billion tonnes of CO_2 emissions in 2020, which is roughly 7% lower than 2019. This is squarely because of the COVID-19 pandemic-related disruptions in our daily life and economic activities. From the year 2000, the global fossil CO_2 emissions rate has been accelerated. In

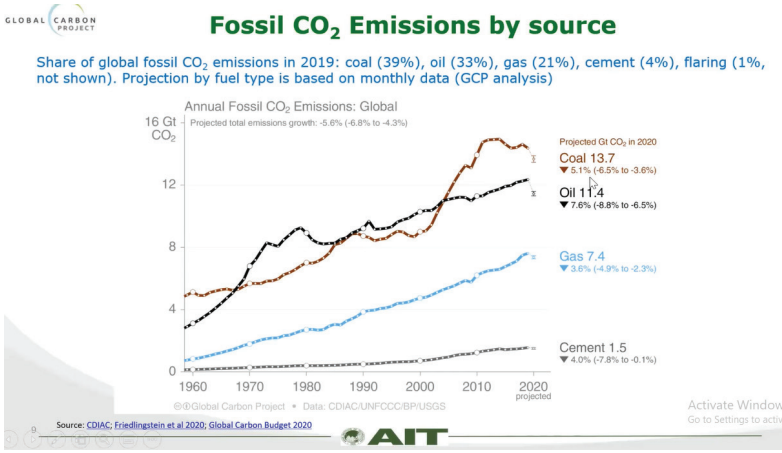
figure 12.6, the curve has been very steep between 2000 and 2010. This is mostly because of the rapid increase in CO_2 emissions from China due to the greater amount of coal used in China. Since the last few years (after 2010), the emissions have slowed down and the curve has become a little flat. Hopefully, the reduction trend that we have predicted for 2020 will prevail. But we have to wait to see how far it will go.

Figure 12.6 : Global Fossil CO_2 Emissions



The CO_2 emissions from coal surpassed the emissions from oil to become the largest source of emissions. Figure 12.7 shows that coal emissions have become higher than oil emissions since around 2005. The increment in coal emissions is basically coming from China as I elaborated earlier that the Chinese emissions started increasing dramatically from the year 2000. So, this global pattern is mostly following China, in particular greater use of coal in China. Since around 2010, little bit is leveling off of coal emissions but not oil and natural gas emissions. In 2019, coal roughly makes 40% of total global CO_2 emissions followed by oil (33%), gas (21%) and cement (4%). A small drop is predicted for the year 2020. In 2020, the emissions from coal are projected to reduce by 5.1%, from oil by 7.6%, from gas by 3.6% and from cement by 4.0%.

Figure 12.7 : Fossil CO_2 Emissions by Source



In 2020, it is expected to reduce CO_2 emissions worldwide because of the COVID-19 pandemic. The figure 12.8 shows that the 2019 Chinese emissions are 10.2 billion tonnes of CO_2, which is grown by 2.2%. In 2020, it is expected that Chinese emissions will be reduced by 1.7%. This Chinese reduction is not a big volume as only 0.2 billion tonnes of emission would be reduced. In contrast, the US and EU would mark the reduction of a bigger volume of emissions in 2020. Almost 0.6 billion tonnes and 0.3 billion tonnes of CO_2 emissions are expected to be reduced in the US and EU respectively.

Figure 12.8 : CO2 Emissions by Top Emitters in 2019 and 2020

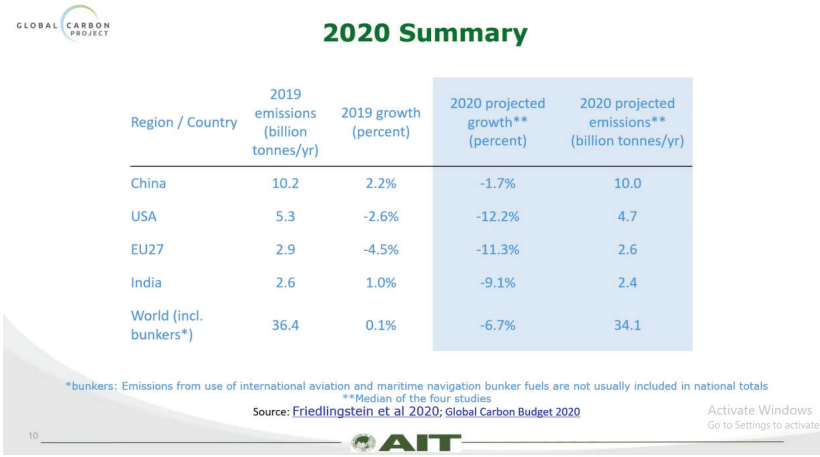
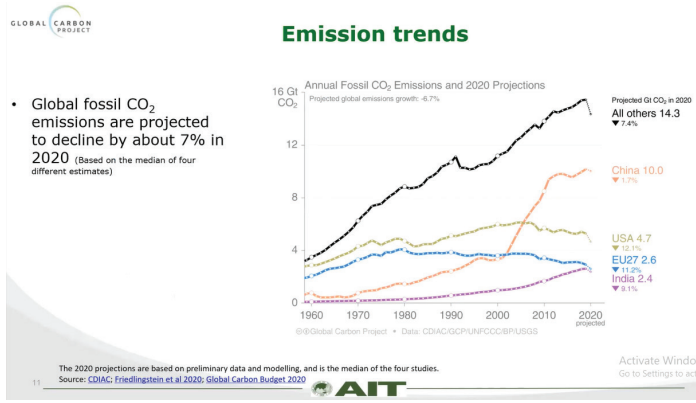
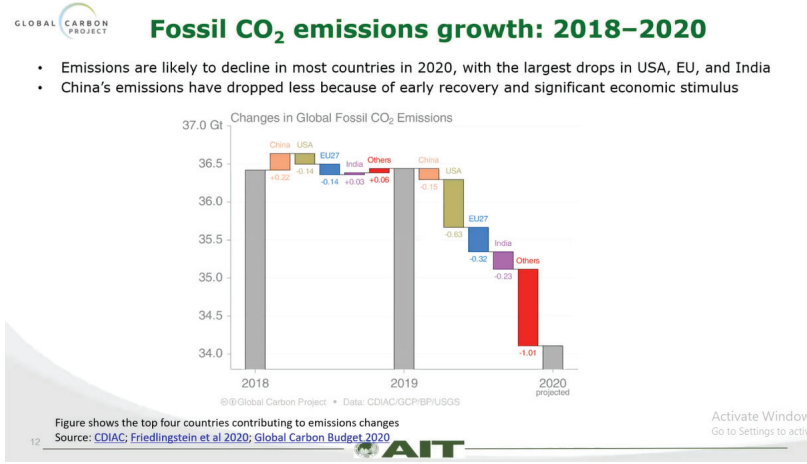


Figure 12.9 : Annual Fossil CO2 Emissions and 2020 Projections



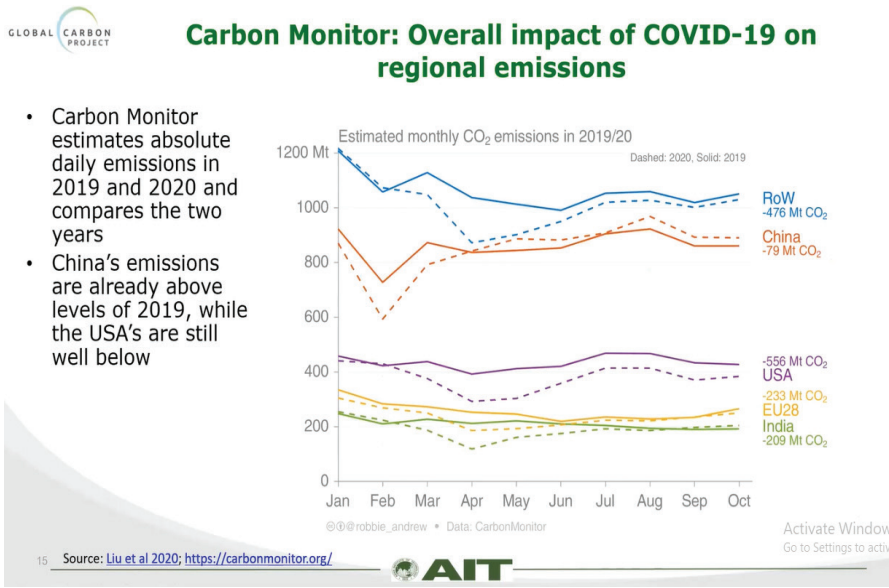
As we discussed above, it has been predicted that the world would witness around a 7% decline in CO2 emissions in 2020. Chinese emissions are expected to drop slightly but a large reduction in other parts of the world like the US and EU is expected in 2020. The reason behind the low reduction in Chinese emissions is because of early recovery from the COVID-19 impact and significant economic stimulus to regain the economy hit by the pandemic. More specifically, the Chinese economy is less impacted by the pandemic compared to other countries in the world. This is a very important distinction at this hour.

Figure 12.10 : Fossil CO2 Emissions Growth: 2018-2020



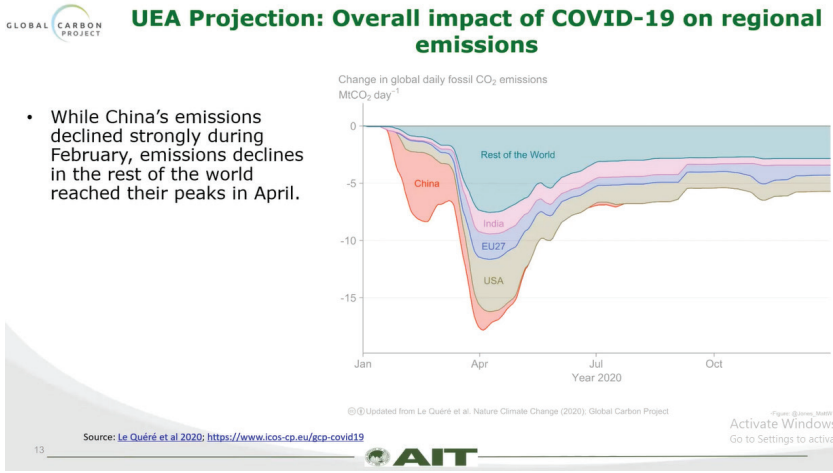
In a different study, the carbon monitor estimates absolute daily emissions in 2019 and 2020 and compares the two years. We can roughly say that lots of CO2 emissions reduction has happened in the period between February and June 2020 because of the lockdown, standstill of industry and transport and restriction of mobility. China's emissions are already above levels of 2019, while the US is still well below.

Figure 12.11: Carbon Monitor: Impact of COVID-19 on Emissions



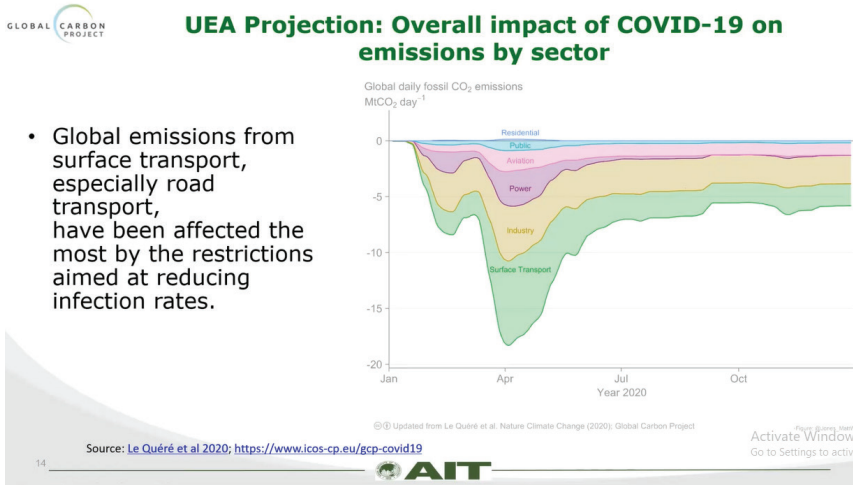
What has happened when non-pharmaceutical measures like lockdown were enforced to combat the pandemic? It has been seen that the CO2 emissions were substantially declined during the period of lockdown. Figure 12.12 demonstrates that China's emissions declined strongly during the month of February when China started locking down the country. It also shows that emissions declines in the rest of the world reached a peak in April. In the US, a huge drop in the emissions profile happened in the month of April 2020. With slowly opening up the transport and other things, the emissions again are slowly going back to the original form but still lower than 2019 emissions. Therefore, it is predicted an overall 7% emissions decline in 2020.

Figure 12.12 : UEA Projections: Impact of COVID-19 on Emissions



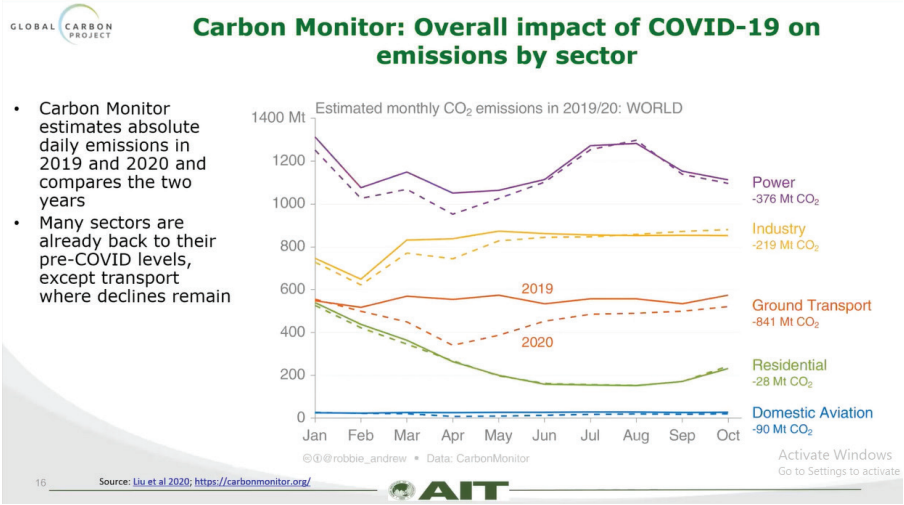
Global emissions from surface transport, especially road transport, have been affected the most by the restrictions aimed at reducing infection rates. A huge reduction of emissions from surface transport happened in April. The reduction of emissions from industry and surface transport has quite prevailed in 2020 because of the reduced economic activities as well as slow economic recovery (see figure 12.13).

Figure 12.13: UEA Projection: Impact of COVID-19 on Emissions by Sector



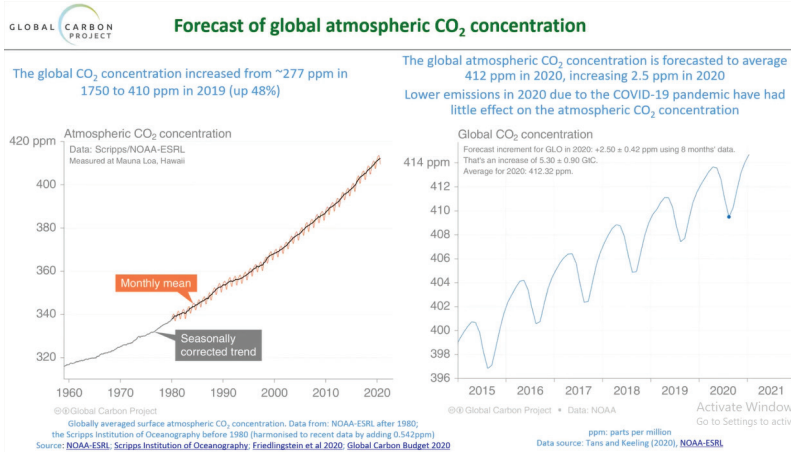
The carbon monitor estimates absolute daily emissions in 2019 and 2020 and compares the two years (see figure 12.14). Many sectors are already back to their pre-COVID levels, except transport where declines remain.

Figure 12.14: Carbon Monitor's Estimation of CO2 Emissions by Sector in 2019/20



As we have a small reduction in CO2 emissions during the pandemic, the question comes: does this reduction noticeably affect CO2 concentration into the atmosphere? The study has shown that there are lower emissions in 2020 due to the COVID-19 pandemic, but it had little effect on atmospheric CO2 concentration because the atmospheric CO2 concentration happens due to the accumulation of emissions over time. Therefore, a small reduction is not seen too much affecting CO2 concentration into the atmosphere at least for the short run.

Figure 12.15 : Forecast of Global Atmospheric CO2 Concentration



Summary of key trends

The discussion that we had about the trends of CO2 emissions is summarized in the following points:

- Rising emissions, following 5-6 degree C pathways
- Rising coal emissions
- Top few nations/regions contributing a majority of emissions
- Historical contributions are dominated by developed countries
- Structural change in developing-developed countries' contribution
- Few developing countries driving most of new emissions
- Rapid emissions reduction is needed
- Lower emissions in 2020 due to the COVID-19 pandemic have had little effect on the atmospheric CO2 concentration
- COVID-19 effect could be only transitory and could catch-up- structural change.

History of Climate Negotiations

Scientists across the globe started saying from the early 1960s that Climate change is dangerous and will keep us in the dangerous world. The historical profile of climate negotiations can be traced as follows:

- 1979 – The first World Climate Conference (WCC) was held. WCC called for science to clarify the picture of climate change. Scientists urged

the United Nations (UN) to have a serious look into the climate change related measures.

- 1988 – The Intergovernmental Panel on Climate Change (IPCC) was set up because science was very much fragmented. Land scientists never talked with ocean scientists. Ocean scientists never talked with atmospheric scientists. So, we need to understand the interlinkages between disciplines. IPCC tried to provide a synthetic picture of the impact of climate change and what it means to the world.
- 1990 – IPCC published the first assessment report. IPCC and second WCC called for a global treaty on climate change. United Nations General Assembly negotiations on a framework convention formally began.
- 1991 – The first meeting of the Intergovernmental Negotiating Committee (INC) was held.
- 1992 – The INC adopted the UNFCCC text. At the Earth Summit in Rio de Janeiro, the UNFCCC was opened for signature along with United Nations Convention on Biological Diversity (UNCBD) and United Nations Convention to Combat Desertification (UNCCD).
- 1994 – UNFCCC entered into the force. After that, the Conference of the Parties (COP) is held every year.
- 1995 – The first COP-1 was held in Berlin.
- 1996 – The UNFCCC secretariat office was set up to support the convention in Bonn, Germany.
- 1997 – One major milestone was achieved during the COP-3 which happened in the Kyoto city of Japan i.e. called Kyoto Protocol.

There are important points in the UNFCCC. For instance, article two of UNFCCC states: *the ultimate objective of the convention is to stabilize GHG concentration at a level that would prevent dangerous anthropogenic interferences with the climate system*. What does it mean? How is it dangerous? We have to define that danger in order to move forward. We hear a lot about 2^0C climate stabilization. We also hear that if we could maintain the world with 2^0C climate stabilization by the end of this century, then this will avoid the dangerous anthropogenic interferences perhaps. That's why 2^0C has become some kind of yardstick for those dangerous anthropogenic interferences. In the 2015 Paris agreement, the countries were willing to maintain the world below 2^0C and are aiming towards 1.5^0C of climate stabilization which is quite a big step.

Article three of UNFCCC lays out the key principles of the convention: inter-generational equity, common but differentiated responsibility and needs of developing countries. These principles are spelled out in text of UNFCCC in the following way:

- Inter-generational equity: ….the parties should protect the climate system for the benefit of present and future generations of humankind….
- Common but differentiated responsibility: ….on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country parties should take the lead in combating climate change and the adverse effects thereof….
- Needs of a developing country: …the specific needs and special circumstances of developing parties….should be given full consideration…

The Kyoto protocol operationalizes the convention through specific commitments and is applied to only the group that sign-up for a particular protocol. It contains legally binding targets for thirty-seven industrialized countries and the EU to cut an average 52% over 2008-2012 from 1990 level. Figure 12.16 shows what was committed by which country. Of course, the US committed to a 7% emissions reduction. In 1997, Bill Clinton was the President of the US. But it was during the George Bush Jr. administration that the US pulled out from the protocol even though Clinton had signed the protocol in 1997.

Figure 12.16 : Kyoto Targets of Countries

Countries	Target (1990**-2008/2012)
EU-15*, Bulgaria, Czech Republic, Estonia, Liechtenstein, Lithuania, Monaco, Romania, Slovakia, Slovenia, Switzerland	-8%
US***	-7%
Canada, Hungary, Japan	-6%
Croatia	-5%
New Zealand, Russian Federation, Ukraine	0
Norway	1%
Australia	8%
Iceland	10%

Despite the US not being part of it, the Kyoto protocol gave lots of momentum to climate change. Particularly, it gave rise to the carbon market. The Clean Development Mechanism (CDM) is one of the activities of a flexible mechanism developed under the protocol. This led to lots of international activities even though the 5.2% reduction included in the protocol was meaningless if looked through the lens of atmospheric principle. CDM was a mechanism where developed countries can come to developing countries and mitigate CO2 emissions. The developed countries can count that mitigated emissions into their reduction commitment made under the protocol.

There are many projects under the CDM. The projects in developing countries can earn Certified Emissions Reduction (CER) credits. Each CER credit is equivalent to one tonne of CO2. CER can be traded and sold and be used by developed countries with emission reduction commitments to contribute (a part) of their Kyoto protocol targets. CDM projects must reduce GHG emissions, support sustainable development. An adaptation fund is financed by a 2% levy on CER issued by CDM. Nepal also has many CDM projects including biogas projects and small and micro hydropower projects. From these projects, Nepal is also selling carbon and making money.

Of course, CDM projects were quite successful in a way. But the price of this CER credit plummeted because the Kyoto protocol did not become very effective in the second period after 2012. This gave rise to other initiatives like joint implementation and emissions trading. Joint implementation and emissions trading allow cooperation among developed countries to meet their obligations which they committed under the Kyoto protocol. The joint implementation allows Annex B countries (with emission reduction commitment in Kyoto protocol) to earn Emission Reduction Units (ERU) from emissions reduction/removal projects in other Annex B countries. Nevertheless, one ERU is equal to one tonne of CO2. Emission trading creates a new commodity in the form of emissions reduction or removal. Carbon and other GHG are tracked and traded like any other commodity creating a carbon market.

Another milestone was the COP-15 Copenhagen conference in 2009. It was expected that the Copenhagen conference would come up with some globally binding targets but it did not happen. There were no new agreements

on emission cut targets. Eight draft texts and intense talks between 115 world leaders largely failed to set any globally binding targets for countries. However, there were many reasons not to lose hope from Copenhagen. First, the countries came up with voluntary emission cut pledges. Even though globally binding targets could not happen, the bottom-up pledged-based system gained momentum. Second, a new and additional resource, including forestry and investments through institutions, approaching USD 30 billion for 2010-2012, was ensured. Moreover, the developed countries said that they will mobilize USD 100 billion per year by 2020 to support climate change actions in developing countries. Third, the Copenhagen accord recognized the need to stay below 2^0C despite no commitments.

As a part of the Copenhagen accord, the countries pledged to reduce GHG emissions for the year 2020. 42 industrialized countries and 44 developing countries submitted pledges by the COP-16 Cancun conference in December 2010. Was the aggregate sum of all the pledges made by the countries enough to stay below 2^0C climate stabilization? The answer was no. The gap between pledges and actual emissions reduction to stay under 2^0C yardstick was huge. Meanwhile, the United Nations Environment Program (UNEP) started tracking that gap and publishes emissions gap reports every year.

This bottom-up pledged based system finally gave rise to the Paris agreement, an outcome of UNFCCC COP-21, in 2015. The Paris Agreement entered into force on 4 November 2016- "thirty days after the date on which at least 55 parties to the convention accounting in total for at least an estimated 55% of the total global GHG emissions have deposited their instruments of ratification, acceptance, approval or accession with the depositary". There are 197 state parties to the agreement. The Paris agreement has several interesting facts such as:

- Universal nature of mitigation agreement: For the first time, all nations irrespective of developed or developing, have agreed to the mitigation commitments. In the Kyoto protocol, only developed countries have mitigation commitments.
- A hybrid structure of global climate governance: It is composed of a mix of bottom-up pledge-based agreement structures coupled with top-down oversights. The pledging mechanism will be revised every five years. Moreover, Nationally Determined Contributions (NDC) has a review

cycle of five years.

- Successfully raising the mitigation aim to the higher bar of dangerous climate change threshold: The agreement aimed at ambitious climate stabilization goals namely aimed to keep climate stabilization below 2^0C and aimed at 1.5^0C.
- A clear signal to broader stakeholders for early peaking of emissions and envisioning the world after 2050 as a GHG neutral one: especially to policymakers, investors, and business communities for peaking of emissions as soon as possible and for decarbonizing the energy sector, that involves less/no fossil energy mix, ramping-up renewable energy deployments, carbon capture and storage, and reforestation.
- The commitments of USD 100 billion by 2020 by developed countries: The idea of USD 100 billion as a financing floor has opened up avenues to mobilize more support for developing countries.

Despite these significant and positive facts, the challenge is the implementation of the commitments. There are different kinds of pledges, priority areas and means of implementation included in the 2015 Paris agreement such as:

- Mitigation pledges: These pledges by 2030 are diverse in nature- absolute emissions reduction from reference year; reduction of emissions/GDP; reduction from business as usual future scenario; no quantified emissions but only policies and actions
- Conditional and unconditional mitigation pledges
- Priority mitigation areas: renewable energy, energy efficiency, sustainable transport, carbon capture and storage, conservation and sustainable management of forests, reducing non-CO2 gases
- Priority adaptation areas: long-term goals or visions guiding the adaptation; impacts and vulnerability assessments; legal and regulatory frameworks; strategies, programs and plans necessary for informed adaptation actions; measures and actions in specific areas; loss and damage associated past and projected climate change
- Focal means of implementation: finance, technology and capacity-building; monitoring and evaluation of adaptation

As said earlier, the Paris agreement envisaged the bottom-up mechanism where the countries have pledged. The countries have different types of pledges. Some of these pledges are absolute emissions reduction. Others are

emission reduction of just carbon intensity which means reduction in CO2 per unit GDP not the reduction in CO2 itself. Some countries set the baseline for the past emissions and others set the baseline for the future emissions. For example, South Korea wants to reduce GHG by 37% by 2030 business-as-usual scenario (see figure 12.17). This means that if South Korea does not do anything, whatever would be GHG emissions in 2030 and from that level it will reduce 37% not from the current or past years, unlike the US and EU. The EU says that the EU would reduce emissions by 40% by 2030 compared to what they had in 1990 (see figure 12.17). In the case of South Korea, it is saying that what would have been in 2030 if it would not act and from that level, it would reduce 37% by 2030.

Figure 12.17 : Mitigation Pledges of Top Emitters

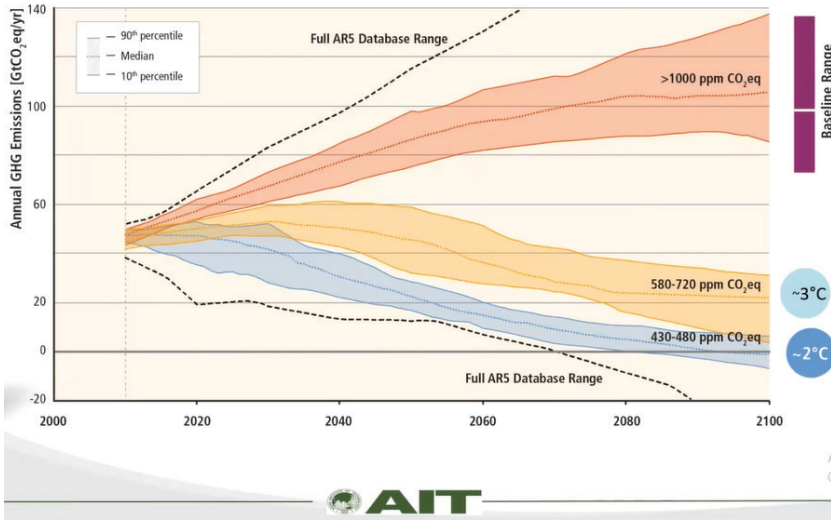
Top 5 emitters

Country, % of global GHG emissions, 2012	GHG emissions reduction target	Target year	Reference year	Period for implementation	
USA 12.1%	26-28%	2025	2005	2020-2025	
China 23.75%	30-45% per unit of GDP	2030	2007	- 2030	• 60% to 65% by 2030 below 2005 levels • Increase the share of non-fossil primary energy to 20% • Emission peak by 2030 or earlier
EU 8.97%	≥40%	2030	1990	2021-2030	
India 5.73%	33-35% per unit of GDP	2030	2005	2021-2030	Non-fossil power generation capacity to 40% of installed capacity by 2030
Russia 5.35%	25-30%	2030	1990	2020-30	
Japan 2.82%	26%	2030	2013	2020-30	18% below 1990 levels
South Korea 1.28%	37%	2030	BAU	2020-30	

See all INDCs here: http://climateobserver.org/open-and-shut/indc/

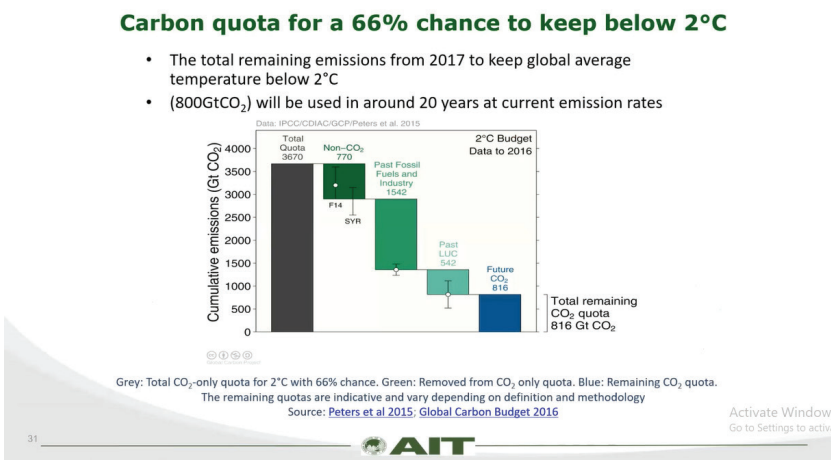
Whatever level of stabilization we discussed regardless of mitigation goals, we have to reduce emissions dramatically in the future. If we do not do anything, we will add global concentration of CO2 by about over 1000 ppm into the atmosphere (see figure 12.18). This means the rise of around 5^0C-6^0C temperature of the earth. If we want to reduce it to 3^0C or 2^0C, we have to cut back GHG emissions dramatically by now.

Figure 12.18 : Annual GHG Emissions



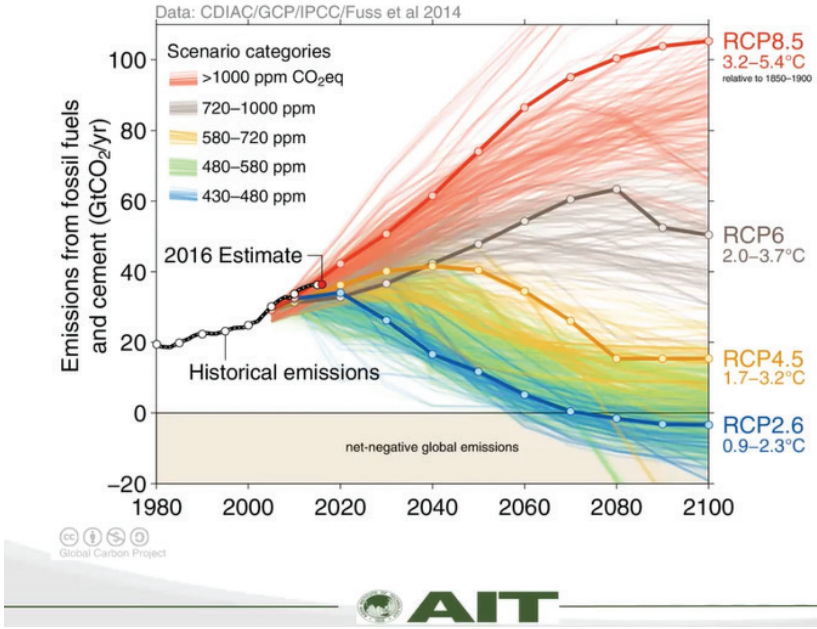
If we want to keep CO2 emissions below 2°C carbon stabilization, the remaining carbon quota is very limited. We emitted so many emissions in the past. The stock of CO2 emissions is also considered. Therefore, the historical cumulative accumulated CO2 in the atmosphere is also important. That's why the remaining carbon quota is low.

Figure 12.19 : Carbon Quota for a 66% Chance to Keep Below 20C



The emissions pledges to the Paris agreement avoid the worst effects of climate change of 4-50C temperature rise. But most studies suggest that the pledges give a likely temperature increase of about 30C in 2100. It is nowhere near 20C or 1.50C climate stabilization. This means that we have to do more. In the next round of Global Stocktake of the Paris agreement, we have to ramp up our level of emissions to the level so that we move towards 20C climate stabilization or aiming towards 1.50C climate stabilization.

Figure 12.20 : Emissions Scenario (1980-2100)



Summary of Climate Negotiations

- GHG emissions growth have accelerated despite ongoing efforts
- Climate change mitigation, if unabated, would result into 3.7 -4.8^{0}C world , which is undesirable
- There is a significant shift in emission structure in recent decades regionally, along income groups and sectors.
- While mitigation challenges exist, the low climate stabilization mitigation pathways (2^{0}C or 1.5^{0}C) are possible, options are there.

- Delaying mitigation would entail more costs and limit options.
- But low climate stabilization pathways need significant efforts from policies and institutions, investment and international cooperation
- COVID-19 is expected to reduce global CO2 emissions by about 7% in 2020 compared to 2019. Emissions are bouncing back from April. There is no noticeable impact of CO2 concentration. The deep economic structural change, if induced by COVID-19, only might reduce emissions in the long term.
- The Paris agreement aims for deep concentration but NDCs are likely to keep us at about 3^0C pathways- implementation and more ambitions are needed.
- Capacity-building, technology transfer and international climate financing are important to emissions reduction.

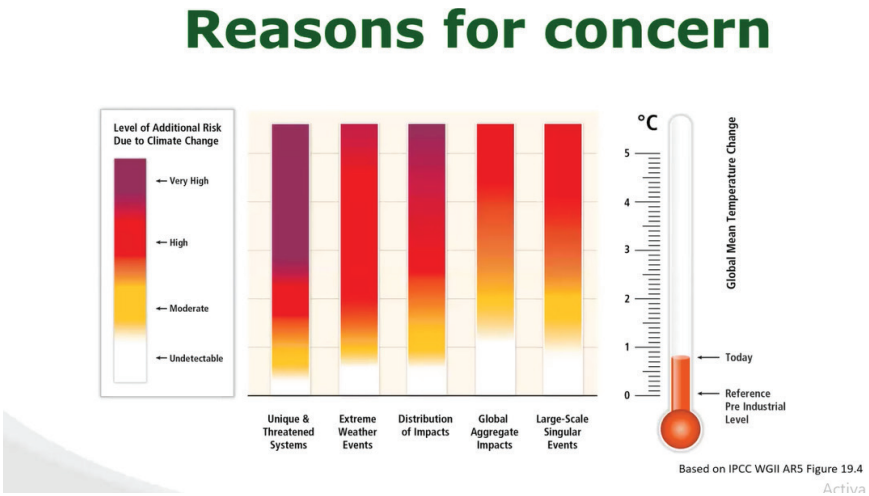
In a question and answer session, Professor Dhakal responded to a question: "what does it mean by 1.50C rise in temperature? How does it impact the whole ecosystem even by 1.50C or 20C?":

The figure included in figure 12.21 comes from the IPCC fifth assessment report of 2013. The figure is called a burning embers diagram among the IPCC community. It elaborates what would happen at different levels of climate stabilization. In the X axis, there are six different climate risks. They are:

- Unique and threatened systems – Tropical glaciers, coral reefs, unique ecosystems, biodiversity hotspots, indigenous communities, endangered species and small island states
- Extreme weather events – Frequency, intensity and consequences of heat waves, floods, drought, wildfires, tropical cyclones and heavy rains
- Distributions of impact – Some regions, countries, and populations face greater harm from climate change, whereas other regions, countries, or populations would be much less harmed- and some may benefit; the magnitude of harm can also vary within regions and across sectors and populations.
- Global aggregate Impacts – Economic damage, danger of species extinction, and degradation and loss of ecosystems
- Large-scale singular events – de-glaciation (partial or complete) of the west Antarctic and Greenland ice sheets, major changes in some components of the Earth's climate system, such as a substantial reduction

or collapse of the North Atlantic Meridional Overturning Circulation

Figure 12.21 : Burning Embers Diagram



In the Y-axis, the figure in figure 12.21 includes the global mean temperature change. The global temperature has already changed by around 10C rise from the pre-industrial era. This means that our unique and threatened system has already been affected moderately. Moreover, we started experiencing extreme weather events as well. If the temperature changes by 1.50C or 20C or 40C, the level of additional risk due to climate change is going to be very high. This would cause lots of loss and damage. The loss and damage associated with climate change are diverse such as extreme climate events, drought, desertification, sea-level rise, salinity in freshwater and groundwater, heat waves, land and forest degradation, loss of biodiversity, glacial retreat, floods and ocean acidification.

Most studies suggest that the emissions pledged by the countries as per the Paris agreement are likely to increase the temperature by about 30C in 2100. The 30C of temperature change will have very high impacts on unique and threatened systems, high impacts on extreme weather events and distribution of impacts and moderate impacts on global aggregate impacts and large-scale singular events.

Appendix A Webinar Schedules

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

TOURISM AMBITIONS AND COVID-19 PANDEMIC
A Webinar by MICD-MWU

04 May 2020

Special Presence	Professor Dr. Nanda B. Singh, Vice-Chancellor, MWU
Guest Speaker	Dr. Brijesh Thapa, Professor, University of Florida, USA
Commentators	Dr. Gian B. Parigi, Professor, University of Pavia, Italy
	Dr. Dhananjay Regmi, CEO, Nepal Tourism Board
Moderator	Dr. Dinesh R. Bhuju, Professor and Academic Head, MICD-MWU
Participants	MICD-MWU faculty, Graduate students, Tourism experts

Webinar Mode- Zoom
Zoom ID: 673-8152-1096
Password: 9900

Time	Activities
4:45 pm	Call start and registration
5:00 pm	Welcome note by Professor Dr. Nanda B Singh
5:10 pm	Presentation by Professor Dr. Brijesh Thapa
5:40 pm	Comments by Professor Dr. Gian Battista Parigi
	Comments by Dr. Dhananjay Regmi
6:00 pm	Questions from the floor (Response by BT)
6:25 pm	Vote of thanks by Mr. Rabin Malla
6:30 pm	End of webinar

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

SECURING FOOD *amidst* COVID-19 PANDEMIC
A Webinar by MICD-MWU

18 May 2020 Monday

Special Presence	Professor Dr. Nanda B Singh Vice-Chancellor, Midwestern University
Invited experts	Dr. Netra Chhetri Professor, Arizona State University, USA Dr. Sarba Raj Khadka Chair, Food-first Information and Action Network Dr. Punya P. Regmi Professor/Vice-chair, Karnali Province Planning Commission
Moderator	Dr. Dinesh R. Bhuju Hon. Professor and Academic Head, MICD-MWU
Participants	MICD-MWU faculty, Graduate students, Tourism experts

Webinar Mode- Zoom
Zoom ID: 626 2745 1220
Password: 9900

Time (Kathmandu)	**Activities**
6:55 am	Call start and registration
7:00 am	Opening note by Professor Dr. Nanda B Singh
7:10 am	Topic I: Understanding the food scenario amidst the pandemic Opinion from the invited experts (NC, SRK and PPR)
7:30 am	Topic II: Planning and taking action for food security: Karnali focus Opinion from invited experts (NC, SRK and PPR)
7:50 am	Questions from the floor (Response by the experts)
8:15 am	Summing up
8:25 am	Vote of thanks by Mr. Rabin Malla
8:30 am	End of webinar panel discussion

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

Health Lessons: Decoding COVID-19 in Wuhan and Lombardy

A Webinar by MICD-MWU

01 June 2020 Monday

Welcome	Professor Dr. Nanda B Singh Vice-Chancellor, Midwestern University
Invited experts	Dr. Gian Battista Parigi Professor, University of Pavia, Italy Dr. Gaurab Pokhrel Postdoctoral specialist, Tongji Hospital , Wuhan
Moderator	Dr. Dinesh R. Bhuju Hon. Professor and Academic Head, MICD-MWU
Participants	MICD-MWU faculty, Graduate students, Invited experts

Webinar Mode:
https://nren.zoom.us/j/64683566770?pwd=QWVCT2tMNzcxQVRFd3VDTElvQ0gxZz09
Meeting ID: 646 8356 6770
Password: 0123

Time (Kathmandu)	**Activities**
4:55 pm	Call start and registration
5:00 pm	Opening note by Professor Dr. Nanda B Singh
5:10 pm	Presentation by invited expert GBP
5:30 pm	Presentation by invited expert GP
5:50 pm	Questions from the floor (Response by the experts)
6:20 pm	Summing up
6:25 pm	Vote of thanks by Mr. Rabin Malla, MICD Program Coordinator
6:30 pm	End of webinar panel discussion

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

Returning Home in COVID-19 Pandemic
Labor Market and Employment

A Webinar by MICD-MWU

June 15, 2020 Monday

Welcome	Professor Dr. Nanda B Singh Vice-Chancellor, Midwestern University
Invited experts	Dr. Padma Prasad Khatiwada Associate Professor, Population Study and Migration, TU Mr. Yuba Raj Bhusal Former Secretary, Government of Nepal
Moderator	Dr. Dinesh R. Bhuju Hon. Professor and Academic Head, MICD-MWU
Participants	MICD-MWU faculty, Graduate students, Invited experts

Webinar Mode:
https://nren.zoom.us/j/68730592769?pwd=cXl0aGI0ZkdDZ08xMWFqbVljd2U0dz09
Meeting ID: 687 3059 2769
Password: 0000

Time (Kathmandu)	**Activities**
6:55 am	Call start and registration
7:00 am	Opening note by Professor Dr. Nanda B Singh
7:10 am	Presentation by invited expert PPK
7:30 am	Presentation by invited expert URB
7:50 am	Questions from the floor (Response by the experts)
8:20 am	Summing up
8:25 am	Vote of thanks by Mr. Rabin Malla, MICD Program Coordinator
8:30 am	End of webinar panel discussion

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

Adapting in the Times of COVID-19
The Engagements of CDN Partners

A Webinar by MICD-MWU

June 29, 2020 Monday

Opening Remarks	Professor Dr. Nanda B Singh Vice-Chancellor, Midwestern University
Invited Guest	Professor Dr. Gianni Vaggi Director UNESCO/UNITWIN/MCD-UP
Moderator	Dr. Dinesh R. Bhuju Hon. Professor and Academic Head, MICD-MWU
Participants	Faculty and graduate students of CDN partner universities

Webinar Mode:
Meeting ID: 632 3052 4116
Password: MicD

Time (Kathmandu)	**Activities**
6:00 pm	Call start and registration
6:10 pm	Opening remark by Professor Dr. Nanda B Singh
6:20 pm	Presentations by CDN partners: • MECOHD, Kenyatta University, Kenya • MICAD, Bethlehem University, Palestine • MCD, IUSS-University of Pavia, Italy • ELACID, Universidad de San Buenaventura, Colombia • MICD, Mid-western University, Nepal
7:00 pm	Opinion from the participating graduate students
7:15 pm	Summing up and way forward Professor Gianni Vaggi
7:25 pm	Vote of thanks and end of the webinar
7:30 pm	End of webinar panel discussion

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

Virtual Socialization in the Time of COVID-19

July 13, 2020 Monday

Invited Guests	Mr. Kamalesh Dc Acting Dean, Faculty of Humanities and Social Sciences, MWU
	Dr. Bijoy Barua Professor at East West University, Dhaka
	Mr. Tej Bikram Basnet Campus Chief, Central Campus, FHSS-MWU, Surkhet
Moderator	Dr. Dinesh R. Bhuju Hon. Professor and Academic Head, MICD-MWU
Participants	Faculty and graduate students of MICD-MWU

Webinar Mode: Join Zoom Meeting
https://nren.zoom.us/j/67891429040?pwd=U1Y3YmNMSHl6Y3FndmNVb3Q2cElEUT09
Meeting ID: 678 9142 9040 Password: MICD@0123

Time (Kathmandu)	**Activities**
7:20 am	Call start and registration
7:30 am	Welcome and opening remark by Mr. Kamalesh DC
7:40 am	**Presentations by MICD graduate PhD scholars** • Dipali Rana, Amity University, New Delhi • Surendra Bohara, Tribhuvan University, Kathmandu • Ajaya Giri, Tribhuvan University, Kathmandu
8:10 am	**Introduction of MICD editions** • Kabita Devkota • Anil Neupane • Gaurav Chaudhary • Santosh Pandey • Rabina Luitel • Abish Man Shakya • Abhiman Singh Lama
8:40 am	Summing up and way forward: Professor Bijoy Barua
8:55 am	Vote of thanks: Mr. Tej Bikram Basnet
9:00 am	End of the webinar

Mid-Western University
Faculty of Humanities and Social Science
Masters' in International Cooperation and Development (MICD)

MICD-MWU
Combat COVID-19
Webinar-4

Returning Home in COVID-19 Pandemic Labor Market and Employment

A Webinar by MICD-MWU

June 15, 2020 Monday 7:00-8:30 AM

Experts in the Panel
Dr. Padam Prasad Khatiwada, Faculty of Population Study, Tribhuvan University
Mr. Yuba Raj Bhusal, Former Secretary, Government of Nepal
Facilitator: Dr. Dinesh R. Bhuju, Hon. Professor and Academic Head MICD-MWU

Join Zoom Meeting
https://nren.zoom.us/j/68730592769?pwd=cXl0aGl0ZkdDZ08xMWFqbVljd2U0dz09
Meeting ID: 687 3059 2769 Password: 0000

MICD-MWU
Combat COVID-19
Webinar-5

Adapting in the Times of COVID-19 The Engagements of CDN Partners

A Webinar by MICD-MWU

June 29, 2020 Monday 6:00-7:30 PM

Invited Guests in the Panel
Prof. Nanda B Singh, Vice-Chancellor, Midwestern University
Dr. Gianni Vaggi, Professor, University of Pavia, Italy
Facilitator: Dr. Dinesh R. Bhuju, Hon. Professor and Academic Head MICD-MWU

Join Zoom Meeting
Meeting ID: 632 3052 4116 Password: MicD

MICD-MWU
Combat COVID-19
Webinar-6

Virtual Socialization in the Times of COVID-19

A Webinar by MICD-MWU

July 13, 2020 Monday 7:30-9:00 AM

Join Zoom Meeting
https://nren.zoom.us/j/67891429040?pwd=U1Y3YmNMSHl6Y3FndmNVb3Q2cElEUT09
Meeting ID: 678 9142 9040
Password: MICD@0123

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

COVID-19 and SDG Impact: Achieving Basic Education

July 27, 2020 Monday

Invited Speaker	Dr. Mahashram Sharma Former Secretary, Government of Nepal
Participants	Invited education experts, MICD faculty and graduate students

Webinar Mode: Join Zoom Meeting
https://nren.zoom.us/j/68485265686?pwd=TXlCZE5uZi80MkdKTVJXWnFaMjJmUT09
Meeting ID: 684 8526 5686
Passcode: MICD-W7

Time (Kathmandu)	**Activities**		
7:20 am	Call start and registration		
	Moderation		
	Dr. Dinesh R. Bhuju, Hon. Professor and Academic Head, MICD-MWU		
7:30 am	**Welcome and opening remark**		
	Mr. Bishnu Khadka, Officiating Dean, Faculty of Education, MWU		
7:40 am	**Presentation**		
	Dr. Mahashram Sharma, former Secretary, Government of Nepal		
8:00 am	**Comment and Opinion from the Invited Personalities**		
	Dr. Baburam Adhikari	Jaya Acharya	Narayan K Shrestha
	Baburam Paudel	Dr. Kamal Pokharel	Prof. Prem N Aryal
	Devina Pradhananga	Kiran Acharya	Dr. Prem Phyak
	Dipendra Subedi	Krishna Malla	Ramakant Sharma
	Dr. Dhruba Raj Regmi	Lalit Bikram Singh	Rameshwor P Yadav
	Hari Parajuli	Dr. Mukunda Mani Khanal	Suprabhat Bhandari
9:00 am	**Open Discussion**		
	MWU Faculty and Graduate Students		
9:25 am	Vote of thanks: Mr. Rabin Malla, Program Coordinator, MICD-MWU		
9:30 am	End of the webinar		

Mid-Western University

Faculty of Humanities and Social Sciences

Masters in International Cooperation and Development

Webinar on

International Development Cooperation in Nepal: The Policy and Priorities of the Government of Nepal

Speaker: Mr. Lal Shankar Ghimire, the Economic Development Advisor, Office of the Prime Minister and the Council of Ministers

Date and Time: Monday, 10th August 2020; 7:30 - 9:00 AM.

The Audience: Students of Masters in International Cooperation and Development.

Webinar Link: meet.google.com/tec-snpd-cqx

MICD
Master in International Cooperation and Development

Knowledge and Expertise for Development

Introduction:

With a low Human Development Index and low Gross National Income per capita, Nepal is currently classified as a Least Developed Country in the world. The 15th Plan of the Government of Nepal has set ambitious targets of achieving equity based high economic growth to achieve the national dream of "Prosperous Nepal, Happy Nepali". In order to fulfil this promise, the Government of Nepal (GoN) aims to mobilise both domestic resources as well as international development cooperation to achieve the national targets of graduating to the status of Developing Countries by B.S.2079 (2022); and together with achieving the Sustainable Development Goals, aims to achieve the status of the Middle Income Countries by B.S.2087 (2030); and to transform Nepal in the long run as a Developed country by B.S.2100 (2043).

Mid-Western University
Faculty of Humanities and Social Sciences
Masters in International Cooperation and Development

CELEBRATING SUCCESSFUL EIGHT YEARS

Sustainability Webinar Series

On Zoom Meeting at 7:30 am (Kathmandu)

Date and Day		
Feb 7 Sunday	**Opening Remarks by Chief Guest**	Prof. Dr Nanda B Singh Vice-Chancellor, MU
	Invited Talk **Psycho-sociological Coping in the post Covid-19 Pandemic**	Dr Usha Kiran Subba Professor of Psychology President, Association of Psychologists in Nepal
Feb 8 Monday	Invited Talk **Nepal Covid-19 Impacts and Economic Revival**	Dr Dadhi Adhikari Director and Economist South Asian Institute for Policy Analysis and Leadership
Feb 9 Tuesday	Invited Talk **Global Trends of CO_2 Emissions and the Paris Agreement**	Dr Sobhakar Dhakal Professor and Dean School of Environment, Resources and Development, AIT

You are cordially invited

Appendix B Profile of the Experts

Brijesh Thapa

Dr. Brijesh Thapa is a Professor in the Department of Tourism, Hospitality & Event Management (THEM) at the University of Florida (UF). Since 2000, he has served in various academic and administrative capacities at the department, college, and university level: Director for Strategic Initiatives at the UF International Center, Director of the UF Eric Friedheim Tourism Institute, Graduate Programs Coordinator for THEM and Academic Coordinator for the Tourism and Recreation Program. His research theme is within the nexus of tourism, conservation and sustainability. Professor Thapa has been appointed as the Editor-in-Chief for the Journal of Park and Recreation Administration, which is one of the leading journals in the recreation and park discipline for over three decades. He holds a PhD in Recreation, Parks, and Tourism from Pennsylvania State University.

Dadhi Adhikari

Dr. Dadhi Adhikari is a director and economist at South Asian Institute for Policy Analyses and Leadership. He has a long working experience in econometrics and mathematical modeling. He has published various research articles in national and international academic journals. Dr. Adhikari delivers lectures in various universities in Nepal including MICD-MU and frequently writes on contemporary economic affairs as a columnist in the national dailies. He is a co-author of the book titled “Is Foreign Aid working? An Analysis of Aid Effectiveness and Growth". Dr. Adhikari completed his PhD in Economics with focus on environmental and natural resource economics from the University of New Mexico, USA.

Dr. Gaurab Pokhrel is a post-doctoral research scholar at the Department of Urology and Andrology in Tongji University, Wuhan, China. He has PhD in urology, and has earned his MBBS (2011) and MS (2014) from Fudan University, Shanghai. Dr. Pokhrel worked as a medical officer at Nepal Army

Institute of Health Sciences, where he supervised and gave lectures to the MBBS classes and served in the outpatient department. He has highly skilled training courses on microsurgery and urology from various institutions and presented seminars in international conferences.

Gaurab Pokhrel

Dr. Gian Battista Parigi is a professor of Pediatric Surgery at the University of Pavia. He has extensive working experience in many developing countries. He has spent several years working in African countries, mostly in Kenya and Tanzania. He worked as a front line medical doctor in Uganda, Tanzania and Mozambique; then, he served in Burkina Faso as an expert for the European commission to scrutinize the University system of the country; later on, he was appointed as Director of the Medical International Cooperation Research Hospital and has served in Congo, Senegal, Ivory Coast and Kenya. He also spent some time in South Asia, where he served as honorary member of the Indian Society of Pediatric Surgery. As an Erasmus Visiting Professor at Mid-west University (Nepal), he has been to Surkhet and delivered lectures. Presently, Prof. Parigi is the Chair of Center for International Cooperation at University of Pavia. He is a great lover of mountaineering and was in Everest base camp recently.

Gian Battista Parigi

Lal Shanker Ghimire is the Economic Development Advisor to the Rt. Honorable Prime Minister- KP Sharma Oli, the Government of Nepal, Office of the Prime Minister and Council of Ministers. Previously, he served as a secretary (revenue) in the Ministry of Finance. In the Ministry of Finance, Mr. Ghimire has years of experience in leading the International Economic Cooperation Coordination Division. Mr. Ghimire has authored a book titled 'Inside Out: A Reflection on Development Practices".

Lal Shanker Ghimire

Dr. Mahashram Sharma is a former secretary of the Ministry of Education, Government of Nepal. Having years of experiences in education planning and policy, Dr. Sharma has served Nepal's education sector in various roles and responsibilities. His skills and expertise lie in the area of planning, programming, and implementing successful education projects. Dr. Sharma is a senior faculty in MICD-MU where he delivers lectures on education policy and planning. He holds a PhD in Education leadership from Kathmandu University.

Mahashram Sharma

Netra B. Chhetri

Professor Chhetri is currently engaged at Arizona State University, USA. He regularly teaches courses: Global Change, Human and Social Dimensions of Climate Change, and Cultural Perspectives on Sustainability. His expertise in global food security has evolved to focus on the impacts of climate change on global food systems, leading him to be one of the contributing authors to the Fourth (2007) and Fifth (2014) Assessment Reports of the United Nations Intergovernmental Panel on Climate Change (IPCC). His work appears in numerous prestigious and peer-reviewed publications including Nature and the Journal of the National Academy of the Sciences. He is also a part of a team exploring how biofuel crops such as perennial grasses can be grown sustainably in the United States.

Dr. Padma Prasad Khatiwada is an associate professor of population and migration studies at Tribhuvan University. He is an expert of migration with an experience of working for human rights, inclusive participation in national census, disaster risk management and peace campaigns. An SNV scholar, he did his PhD in "Conflict induced migration in Nepal: A social inclusion perspective". Dr. Khatiwada has led over 100 research studies on social sciences. He is General Secretary of Population Association

Padma P. Khatiwada

of Nepal and Editor of Nepal Population Journal. To his recent credit, he has authored "Migration in Nepal: A Country Profile 2019", published by International Organization for Migration, Kathmandu.

Punya P. Regmi

Professor Punya P. Regmi is the vice-chairperson in the Planning Commission of Karnali Province. He has completed his PhD in Regional and Rural Development Planning from Asian Institute of Technology, Bangkok, Thailand. Professor Regmi has also long teaching experience in higher education in Agriculture and Agricultural Life Science in several Universities in different parts of the World. He has a several publications in Eco-restructuring: A New Development Paradigm for Sustainable Development, The Springtide, Second Annual Issue, 2001, Importance of Irrigation in Ecological Restructuring: Empirical Evidence from Nepal, 2000 and Eco-restructuring: a holistic methodological framework for sustainable agricultural development in 1999 and many more.

Sarba Raj Khadka

Dr. Sarba Raj Khadka has been engaged in development politics and policies as a development practitioner, researcher, human rights defender, academician and social activist. He has more than 25 year's continuous engagement in the field of Natural Resources Management and food security. He completed his PhD in 2007 by the School of Environment, Resources and Development (SERD) of the Asian Institute of Technology, Thailand. He is currently working as the Senior Adviser of Rural Reconstruction Nepal and Chairperson of FIAN Nepal.

Professor Dr. Shobhakar Dhakal is the Vice President for Academic Affairs at Asian Institute of Technology (AIT). Previously, he was the Dean of the School of Environment, Resources and Development in AIT. He completed his PhD in energy and urban heat island mitigation from the University of Tokyo. Professor Dhakal is a coordinating lead author of chapter 12 on human settlement, infrastructure and spatial planning of working group

III contributions to the fifth assessment report of Intergovernmental Panel on Climate Change. He has authored several books, monographs, book chapters and referred international journal articles. His research interests lie in the area of cities and climate change, climate change mitigation, environmental governance, energy policy and energy and sustainable development.

Shobhakar Dhakal

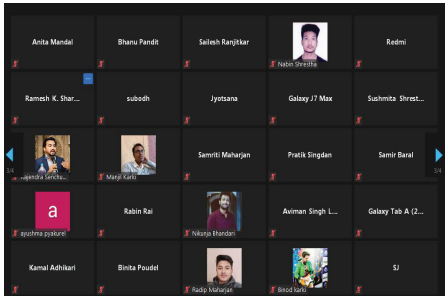
Usha Kiran Subba

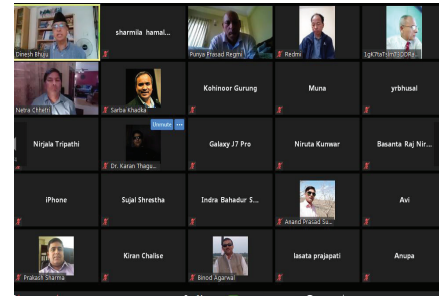
Dr. Usha Kiran Subba is a professor of psychology at Tribhuvan University (TU). She is also a president of the Association of Psychologists in Nepal. Professor Subba has more than 28 years of teaching and research experience at TU. Her skills and expertise lie in the area of psychotherapeutic process, psychopathology, counseling and behavioral psychology.

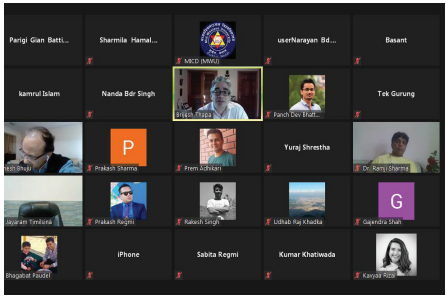
Yuba Raj Bhusal

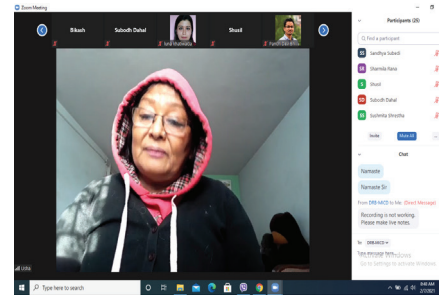
An experienced planner and administrator, Mr Yuba Raj Bhusal has a professional career with the Government of Nepal and international institutions for over 30 years. He has expertise on post-disaster reconstruction and rehabilitation, development planning, poverty alleviation, public policy, administrative and civil service reforms, gender mainstreaming, budgeting, human resource management, land reforms, rural development, decentralization and local governance, and capacity development. He was CEO of National Reconstruction Authority (NRA) Nepal. Earlier, he served as the Secretary at the National Planning Commission and Ministry of Finance. He was educated in AIT Bangkok and Dortmund Germany. Currently, he is a senior faculty member of MICD-MU.

Appendix C Photos of the Webinars









Master in International Cooperation and Development (MICD) is a two year post-graduate program offered by Mid-West University (MU) in academic and technical assistance from the University of Pavia (Italy) since 2013. The MICD-MU, an interdisciplinary course covering sustainable development, is a part of a Cooperation and Development Network (CDN), which is a network of post-graduate programs in cooperation and development involving Bethlehem University (Palestine), Kenyatta University (Kenya), Mid-west University (Nepal), Universidad De San Buenaventura (Columbia) and University of Pavia (Italy). The objectives of the MICD-MU are to: (1) train and equip students to achieve the highest professional standards to effectively manage and lead development projects; (2) combine academic knowledge with practical skills to interpret multidimensional issues of development interventions, approaches and modalities; and (3) develop competent human resources in the field of cooperation and development required by public institutions, I/NGOs, UN agencies and other organizations. The course curriculum is divided into four semesters and covers the three pillars of sustainable development: environmental, economic and social. This curriculum derives theoretical and conceptual knowledge from the academic disciplines such as development studies, development economics, environmental studies, economics, management studies, international studies, political studies, public health and sociology. The project cycle management and thesis writing course in the final semester of MICD-MU are designed to provide practical knowledge and exposure.

Master in International Cooperation and Development
Faculty of Humanities and Social Sciences
Mid-West University
18 Damkal-Chakrapath Marg
Naya Bato, Ring Road, Lalitpur, Nepal
Tel: + 977 1 5544970
Email: micd@mwu.edu.np
Website: https://micd.edu.np/
Facebook: www.facebook.com/micdnepal

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