



INTERNATIONAL CONFERENCE ON NEPAL'S RECONSTRUCTION

07 – 10 DECEMBER 2021

from reconstruction to resilience...



INTERNATIONAL CONFERENCE REPORT



GOVERNMENT OF NEPAL
MINISTRY OF HOME AFFAIRS
NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT AUTHORITY



INTERNATIONAL CONFERENCE ON NEPAL'S RECONSTRUCTION 2021

“FROM RECONSTRUCTION TO RESILIENCE”

INTERNATIONAL CONFERENCE REPORT

07 – 10 DECEMBER 2021



GOVERNMENT OF NEPAL
MINISTRY OF HOME AFFAIRS
NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT AUTHORITY

Published by the National Disaster Risk Reduction and Management Authority, Kathmandu, Nepal. 2022

Conference conducted by National Reconstruction Authority

Design and layout by the ICNR Secretariat

ICNR 2021 Technical and financial assistance provided by the World Bank Group



Report Compilation by **Housing Recovery and Reconstruction Platform (HRRP)**



The contents of this conference report of the International Conference on Nepal's Reconstruction 2021 (ICNR-2021) reflects the summarised presentations and discussions of the numerous contributors, stakeholders, and participants of the event. They do not necessarily represent the official opinion or position of the NDRRMA/NRA regarding the post-earthquake reconstruction process and outcomes.

Printed Year: 2022
Copies: 100
Printed in Nepal



ICNR 2021







...from Reconstruction to Resilience
**INTERNATIONAL CONFERENCE
ON
NEPAL'S RECONSTRUCTION 2021**

December 7-9 | Kathmandu, Nepal

REGISTRATION



Government of Nepal
National Reconstruction Authority

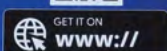
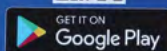
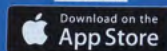


TABLE OF CONTENTS

Foreword, Acknowledgement & About this Publication

Abbreviations

Introduction

Conference Declaration

ICNR Programme Summary

ICNR Programme Agenda

ICNR Programme

DAY 1 – Arrival

DAY 2 – Opening Ceremony & Sessions

DAY 3 – Sessions & Closing Ceremony

Annex 1

Annex 2

Annex 3

Annex 4

Annex 5

List of Contributors



These objectives were manifested in thematic, scientific, open and round table sessions where NRA and external development partners shared experiences from two different but collaborative angles.

FOREWORD

The National Reconstruction Authority (NRA) organised the International Conference on Nepal's Reconstruction (ICNR – 2021) with an objective of sharing Nepal's experience on Nepal's reconstruction, and setting a launching pad for moving towards a resilient Nepal. These objectives were manifested in thematic, scientific, open and round table sessions where NRA and external development partners shared experiences from two different but collaborative angles. Views from I/NGOs, political parties and media, amongst others, were also solicited. National and international scientists presented various facades of reconstruction issues and offered solutions for better delivery in the future. The open sessions deliberated on some glaring issues such as urban housing reconstruction and retrofitting which require special attention. Moreover, the strategic issues were discussed in the round table discussions, all of which culminated to 'From reconstruction to resilience'.

The gracious presence of Rt. Hon. President Ms. Bidya Devi Bhandari during the inaugural session and Rt. Hon. Prime Minister Mr. Sher Bahadur Deuba during the closing session encouraged and empowered us tremendously. In addition, the Foreign Minister Dr. Narayan Khadka's initiatives to invite the Foreign Ministers and other dignitaries of bilateral and multilateral agencies played a pivotal role for securing foreign ministerial level contributions from our friendly nations. All of these contributions raised Nepal's profile in the international arena. Remarkable contributions from the former Deputy Prime Minister and Finance Minister Mr. Bishnu Poudel, Finance Minister Mr. Janardan Sharma, and Federal Affairs and Local Development Minister Mr. Rajendra Shrestha, enhanced the conference's credibility and visibility tremendously.



The ICNR was steered by the Rt. Hon. Prime Ministers: Mr. K.P. Sharma Oli at the initial stage and Mr. Sher Bahadur Deuba in the later stage. As a Chair, I would like to extend sincere thanks to all organising committee members for their contributions. The ICNR Secretariat led by the Executive Committee Member Dr. Chandra Bahadur Shrestha played a pivotal role in spearheading the entire process and ensuring all outputs.

I hope these hard earned best practices will be used for making progress towards a resilient Nepal. There are a number of areas where immediate attention will be required. Firstly, most of the country's private and public buildings are not earthquake resilient, hence will not be able to withstand many forms of natural disaster that may strike anytime in the future. Strengthening of all these structures will pay back enormously. Secondly, urban housing will require policy reform enabling the public and

private sector to collaborate for introducing and engaging on urban renewal. Thirdly, and with a similar token, a majority of mountainous settlements are located on fragile slopes which are prone to the multiplicity of disasters such as earthquakes, landslides and flooding. Finally, climate change induced erratic and extreme rainfall pattern has exacerbated settlements' vulnerability which either require relocating to safe locations or the immunising of existing locations with adequate preventative measures.

With this, I thank you all who contributed to the reconstruction and to the International Conference on Nepal's Reconstruction (ICNR-2021).

Sushil Gyewali

Chief Executive Officer
National Reconstruction Authority



ACKNOWLEDGEMENT



I would like to acknowledge national and international session chairs, coordinators, moderators, paper presenters and commentators. Their rigorous efforts contributed to maintain outstanding conference delivery.

I would like to extend our profound gratitude to Rt. Hon. President of the Republic of Nepal Ms. Bidya Devi Bhandari for her gracious presence in the inaugural session. Rt. Hon. Prime Minister Mr. Sher Bahadur Deuba also deserves our deep appreciation for his policy guidance and for delivering thoughtful and strategic concluding remarks. The Foreign Minister Dr. Narayan Khadka played crucial role by extending invitation to the Ministers of all friendly nations. Dr. Khadka beamed ICNR's significance by agreeing to chair the inaugural session. The remarks of Finance Minister Hon. Mr. Janardan Sharma, Minister – Federal Affairs and General Administration Hon. Mr. Rajendra Prasad Shrestha; and the former Deputy Prime Minister and Finance Minister Hon. Mr. Bishnu Poudel demonstrated political consensus for mainstreaming NRA's lessons in government policies. We were upbeat with the gracious presence of Hon. Mr. Devendra Poudel, the Minister for Education, Science and Technology.

Dr. Biswo Poudel, the Vice Chairman of the National Planning Commission, also deserves our heartfelt appreciation for his valuable contribution. The Chief Secretary Mr. Shanker Das Bairagi's whole hearted contribution for shaping and polishing the ICNR agenda and coordinating among relevant line agencies was prerequisite for ICNR's success. By chairing one of the most crucial conference sessions, he enhanced the discourse immensely.

I would like to acknowledge national and international session chairs, coordinators, moderators, paper presenters and commentators. Their rigorous efforts contributed to maintain outstanding conference delivery. The



contribution of Dr. Yuba Raj Khatriwada, the Former Finance Minister, Dr Bindu Lohani, the former Vice President of Asian Development Bank, Mr. Faris Hadad-Zervos, Country Director – the World Bank Nepal led the conference's discourse into new height.

I extend sincere appreciation to the dignitaries who boosted our morale and laid another brick in our bilateral relations.

Opening session

ADB – Mr. Shixin Chen, Vice President

Canada – HE Ms. Amanda Strohan, Charge D'Affairs

China – HE Mr Wang Yi, Minister of Foreign Affairs

EU – Mr. Janez Lenarcic, European Commissioner for Crisis Management

India – HE Dr. S. Jaishankar, External Affairs Minister of India

Japan – HE Mr. Honda Taro, Parliamentary Vice-Minister for Foreign Affairs

Norway – HE Ms. Anne Beathe Tvinneim, Minister of International Development

SDC – Ms. Patricia Danzi, Director General

UK – HE Lord Ahmad of Wimbledon, Minister, FCDO

UN – Mr. Neil Buhne, Reg. Director for the UN Dev. Coord. Office Asia and the Pacific

UNICEF – Mr. George Laryea-Adjei, Regional Director for South Asia

USA – HE Randy W. Berry, Ambassador of the United States of America to Nepal

WB – Mr. Faris H. Hadad-Zervos, Country Director for Maldives, Nepal and Sri Lanka

Closing session

ADB: Mr. Arnaud Cauchois, Country Director, Nepal Resident Mission

China: H.E. Ambassador Ms. Hou Yanqi, Ambassador, PRC

India: Mr. Karun Bansal, FS (DP&R), EoI

JICA: Ms. Asakuma, Chief Representative

UK: Mr. Ben Mellor, Director India and Indian Ocean Directorate, FCDO

UNDP: Ms. Kanni Wignaraja, Assistant Secretary General, UNDP (video message)

USAID: Ms. Sepideh Keyvanshad, USAID Nepal Mission Director

WB: Mr. Hartwig Schafer, Vice President, South Asia Region, WB (video message)

The multi-donor trust fund partners: Canada, SDC, UK, USA and WB generously allocated resources for this conference. Particularly I am appreciative of the World Bank who led the MDTF partners and provided tailor-made support for organizing this conference. Particularly dedicated support of Mr. Kamran Akbar, Mr. Hemang Karelia Ms. Sulochana Nepali is highly acknowledged. UNDP's technical assistance for preparation of this conference report is also worth mentioning. The NRA enjoyed EU's support through NEARR Facility during Nov. 2019 to April 2021.

In addition, the conference was greatly benefitted from the enthusiastic contribution of relevant political leaders, prominent international dignitaries, bilateral and multilateral Organizations, top-notch professionals and bureaucrats. Appreciations are due to the employees of NRA partner organizations.

It gives me immense pleasure to thank the Chairman of the ICNR Organizing Committee and the CEO of the NRA, Mr. Sushil Gyewali, for his overall leadership and guidance. All organizing committee members deserve heartfelt thanks for their constructive contribution.

Accolades are due to Dr Chandra Bahadur Shrestha, the Executive Member for his dedication, ingenuity and professionalism for leading the entire conference preparatory process and handling ultimate event which glorified the entire reconstruction interventions. His efforts



were bolstered by Mr. Manohar Ghimire, the Member Secretary of the ICNR Secretariat. Other members were: Ms. Sulochana Nepali, Mr. Janardan Nepal, Mr. Sandeep Gurung and Mr. Minar Thapa Magar. Dr. Adi Walker acted as the ICNR Secretariat Member when EU funded NEARR Facility was active until the end of April 2021. The conference enjoyed Dr. Adi's prompt, proactive and precise inputs during and after the conference.

The NRA owes special thanks to Prof. Dr. Govinda Nepal for leading the conference report preparation team which was supported by HRRP. Particularly Mr. Ruplal Aidi, Ms. Sabina Bhandari, Ms. Ambika Amatya, Mr. Ranjan Dhungel and Mr. Keshab Shrestha for their noteworthy contribution. In addition, Ms. Prakriti GC of UNDP and Ms. Sulochana Nepali of the World Bank also provided their inputs. Producing output during the period of two weeks' time was extremely herculean task.

The professional inputs received from the Emazing Pvt. Ltd.

for preparing ICNR homepage and designing app for virtual conferencing were highly effective. We are appreciative of the event manager U Turn Events, the Event Management Company, for their efficient delivery.

All NRA staff members deserve congratulations for bearing fruition of their hard labor. Last but not the least, NRA is indebted to all political leaders, Members of Parliament, government bureaucrats, development partners, contractors, consultants and all user committees and beneficiaries for their courage and contribution to the Nepal's reconstruction which led the successful reconstruction which prompted to shiny conference!

Thank you.

Sushil Chandra Tiwari
Secretary

National Reconstruction Authority



...from Reconstruction to Resilience

INTERNATIONAL CONFERENCE ON NEPAL'S RECONSTRUCTION 2021

December 7-9 | Kathmandu, Nepal



Government of Nepal
Nepal Reconstruction Authority





ABOUT THIS PUBLICATION



All these historically seminal documents were vented out through the ICNR which satisfied the first conference objective of sharing Nepal's experience.

The International Conference on Nepal's Reconstruction (ICNR – 2021) was conceived in Nov. 2019 which was intended to share Nepal's reconstruction knowledge and to learn through interacting with the world. Based on the acquired knowledge base, another objective was to create launching pad for streamlining disaster-related best practices particularly in infrastructure development.

For taking the ICNR activities forward, the first Organizing Committee met on 15th Nov. 2019. Documentation process was carried out in four streams: scientific, corporate, institutional and open. The Secretariat organized a series of thematic workshops during Nov. 2019 to Jan. 2020 for sensitizing the prospective scientific authors. The submitted articles and prepared documents were vetted through the symposium (24-28 Aug., 2020) and the Webinar (27-28 Nov., 2020). In addition, focused workshops were organized for retrofitting (21 Feb., 2021), housing extension (22 March 2021) and urban issues (02 April 2021). All these endeavors yielded outputs as:

No.	Publications
1	Progress in Disaster Sciences – Vol I
2	Nepal's recovery and reconstruction after the 2015 Gorkha Earthquake: lessons and way forward: Summary Report Part A
3	Vikas: A Journal of Development – Vol I
4	The institutional memory of Nepal's earthquake recovery and reconstruction: Compendium Document: Part B
5	Progress in Disaster Sciences – Vol II



6	Reconstruction experience and learning: A collection of articles from policy makers and implementations
7	Vikas: A Journal of Development – Vol II
8	Rebuilding Nepal-Special Issue: Nepal's post-earthquake recovery and reconstruction
9	NRA experience paper on retrofitting of private housing post 2015 Gorkha Earthquake
10	Rebuilding Nepal – Photographic Documentation
11	Roster for trained human resources in retrofitting of private houses in Nepal
12	Proposed urban recovery strategies
13	Ready to use manual for repair and retrofitting of masonry structure
14	A collection of working procedures – Vol I
15	Norms and rate analysis of retrofitting masonry building
16	Web based seminar on NRA's achievements in recovery and reconstruction – experience and learnings – 27-29 Nov. 2020 – Conference Report
17	Guidelines for extension of masonry buildings
18	National Symposium on Nepal's Reconstruction, 24-27 Aug. 2020: Conference Report
19	Evaluation of socio-economic
20	ICNR Conference Report – Dec. 2021 impacts of reconstruction in Nepal

All these historically seminal documents were vented out through the ICNR which satisfied the first conference objective of sharing Nepal's experience. The ICNR provisioned to corroborate the scientific findings and NRA views through seeking opinion from development partners, I/NGOs, politicians and journalists. The ICNR incorporated a number of discussion forums which outlined Nepal's journey towards resilient Nepal.

With all these attributes, this document has evolved something more than the conference report by synthesizing 20 seminal documents with stakeholders' substantiation. Moreover, it charted out map to go ahead.

With this, we have concluded our entire interventions. We are confident on Government's resolve in mainstreaming our recommendations with strong support from development partners. I am grateful for this wonderful opportunity and thankful to all who engaged with us in this process.

Dr. Chandra Bahadur Shrestha
Executive Member and ICNR Convener
National Reconstruction Authority



ABBREVIATIONS

ADB	Asian Development Bank	DOLI	Department of Local Infrastructures
AIN	Association of International Nongovernmental Organizations in Nepal	DOLIDAR	Department of Local Infrastructure Development and Agricultural Roads
BCRAC	Building Code Revision Advisory Committee	DoR	Department of Roads
BMC	Brick Masonry in Cement	DPR	Detail Project Report
BMM	Brick in Mud Mortar	DRCN	District Road Core Network
CBOs	Community-Based Organizations	DRRM	Disaster Risk Reduction and Management
CBS	Central Bureau of Statistics	DRSP	Disaster Resilience of Schools Project
CDO	Chief District Officer	DSCWM	Department of Soil Conservation and Watershed Management
CEO	Chief Executive officer	DUDBC	Department of Urban Development and Building Construction
CGI	Corrugated Iron Sheets	DWIDP	Department of Water Induced Disaster Management
CLPIU	Central Project Implementation Unit	DWSS	Department of Water Supply and Sewerage
CRC	Community Reconstruction Committees	EC	Executive Committee
CRS	Catholic Relief Services	EEAP	Earthquake Emergency Assistance Project
CSO	Civil Society Organizations	EHDC	Earthquake Housing Damage Characteristics
CTEVT	Council of Technical Education and Vocational Training	EHRP	Earthquake Housing Recovery Program
CTTF	Centre Technical Taskforce of Centre Bureau of Statistic	EEAP	Earthquake Emergency Assistance Project
DACFC	Development Assistance Coordination and Facilitation Committee	EIRR	Economic Internal Rate of Return
DoA	Department of Archaeology	ESRP	Emergency School Reconstruction Project
DAO	District Administration Office	EU	European Union
DCC	District Coordination Committees	EXIM Bank	Export-Import Bank of India
DDA	Detail Damage Assessment	FCDO	Foreign, Commonwealth & Development Office
DDMC	District Disaster Management Committee	FY	Fiscal Year
DDRC	District Disaster Risk Committee	GDP	Gross Domestic Product
DFID	Department of International Development	GESI	Gender Equality and Social Inclusion
DLPIU	District Level Project Implementation Unit	GMALI	Grant management and Local Infrastructure
DMG	Department of Mining and Geology	Gol	Government of India
DoE	Department of Education	GoN	Government of Nepal (GoN)



HCBS	Hollow Concrete Block	NSET	National Society for Earthquake Technology
HRHRS	Household Registration for Housing Reconstruction Survey	ODR	Owner Driven Reconstruction
HRIS	Human Resource Information Management System	PA	Participation Agreement
HRRP	Housing Reconstruction and Recovery Platform	PBI	Public Buildings and Infrastructures
ID	Identification Document	PCU	Project Coordination Unit
IFRC	International Federation of Red Cross	PDNA	Post Disaster Need Assessment
INGO	International Non-Government organization	PDRF	Post Disaster Recovery Framework
IT	Information Technology	PIU	Project Implementation Unit
JFPR	Japan Fund for Poverty Reduction	POs	Partner Organizations
JICA	Japan International Cooperation Agency	PRC	People's Republic of China
KOICA	Korean International Cooperation Agency	RC	Reinforced Concrete
KVDA	Kathmandu Valley Development Authority	RCC	Reinforcement Cement Concrete
LMGS	Land Management and Geological Studies Section	SEANep	Structural Engineers' Association Nepal
LRN	Local Road Network	SDC	Swiss Agency for Development and Cooperation
M&E	Monitoring and Evaluation	SFD	Saudi Fund for Development
MDTF	Multi-Donor Trust Fund	SMC	Stone in Cement
MoE	Ministry of Education	SMM	Stone in Mud Mortar
MOFA	Ministry of Foreign Affairs	SOP	Standard Operating Procedure
MOFAGA	Ministry of Federal Affairs and General Administration	STA	Socio-Technical Assistance
MoFALD	Ministry of Federal Affairs and Local Development	TOR	Terms of Reference
MOHA	Ministry of Home Affairs	TVET	Technical and Vocational Education and Training
MoHP	Ministry of Health and Population	TWG	Technical Working Group
MoUD	Ministry of Urban Development	UN	United Nations
NBC	Nepal National Building Code	UNDP	United Nations Development Programme
NFN	NGO Federation of Nepal	UNICEF	United Nations International Children's Education Fund
NGO	Non-Government Organization	UNOPS	United Nations Office for Project Services
NNBC	Nepal National Building Code	USAID	United State Agency for International Development
NPC	National Planning Commission	VDC	Village Development Committees
NRA	National Reconstruction Authority	VRCN	Village Road Core Network
NRCS	Nepal Red Cross Society	WASH	Water Sanitation and Hygiene
		WB	World Bank



INTRODUCTION



The cataclysmic trembler of 25 April 2015 (7.8 Mw) and its aftershocks devastated US \$ 7 billion worth of infrastructure, killed 8,790 lives and injured 22,300 people. Despite pervasive scepticism, the National Reconstruction Authority (NRA) concluded reconstruction of nearly 760,000 private houses (92%), nearly 7000 school buildings (88%), nearly 800 health buildings (65%), nearly 400 government buildings (94%) and nearly 600 heritage monuments (64%). This globally largest owner driven housing reconstruction and unprecedented reconstruction and recovery were realised with pragmatic strategies, down to earth leadership style and coordinated efforts among governmental and development partners.

NRA recognised its historical responsibility to record the adopted measures to overcome seemingly unsurmountable challenges and make available to the Nepal's future generations and to the global communities. With this, we wanted to minimise post disaster reconstruction cost and human sufferings. In pursuit of this, NRA documented twenty seminal publications ranging from scientific articles, corporate papers and opinionated papers which were burnished through a protracted vetting process for making them well founded.

The NRA presented those publications in the International Conference on Nepal's Reconstruction (ICNR-2021) during 7-9 Dec., 2021. Only selective 350 physical participants were invited whereas thousands of individuals participated virtually. Out of 22 total sessions, opening and closing were concluded in gracious presence of Rt. Hon. President Ms. Bidya Devi Bhandari and Rt. Hon. Prime Minister Mr. Sher Bahadur Deuba respectively. There were four scientific sessions where the papers published either in the Progress in Disaster Science or Vikas were presented. In the six thematic sessions, NRA presented its own corporate challenges, strategies and achievements in the housing,

heritage, public buildings and infrastructure, governance and livelihoods. The open sessions were focussed on the glaring issues that the NRA attempted to grapple with but had to leave as work in progress. The round table discussion sessions were divided into two categories. The first category solicited the external opinion on NRAs delivery such as donors, foreign reconstruction agencies, political parties and journalists. The second category of the round table discussion sessions delved on the future strategies based on what NRA's achievements.

Ultimately, the ICNR came forward with a declaration which basically emphasized on strengthening of local governments, conservation of heritage monuments and sites, urban regeneration, livelihood initiatives, strengthening vertical linkages among federal, provincial and local governments, adoption of earthquake resilient technologies including retrofitting. The major focus was on strengthening the National Disaster Risk Reduction and Management Authority.

The major highlights of the Conference were that the NRA achieved its objectives but its lessons have to be mainstreamed in the concerned line agencies and also the development partners expressed commitment for facilitating this transitional process.

This report elucidates each session with particular focus to the general consensus. It is expected that these conference report will be a useful reference document for future discourse to this effect. It is our sincere attempt to prevent this country and rest of the world from wasting resources. However, as this report was required us to prepare within an extremely short period, the elaboration and consistency could have been compromised. We sincerely request to the prospective readers to refer our rich reservoir of literature which we prepared with due diligence.



CONFERENCE DECLARATION

Participants from around the world and from Nepal came together on 7-9 December 2021, to attend the International Conference on Nepal's Reconstruction 2021 (ICNR-2021).

The Conference, organized by the National Reconstruction Authority of Nepal (NRA) and chaired by the Honorable Foreign Minister of Nepal, Dr. Narayan Khadka, was inaugurated by The Right Hon President of Nepal, Shree Bidya Devi Bhandari. All high-level Development Partners involved in the reconstruction sector including bilateral agencies: India, China, USA, UK, EU, Japan, Canada, Switzerland, Norway, and multi-lateral agencies including World Bank, ADB, and UN Agencies also participated.

Understanding the high levels of multi-hazard risk in Nepal;

Acknowledging the political consensus in reconstruction, National Reconstruction Authority's leadership with proactive support from the Development Partners and moreover strong dedication demonstrated by the affected households and communities behind the successful implementation of the post-earthquake reconstruction and recovery;

Reflecting the spirit of the Sendai Framework for Disaster Risk Reduction, committing to Build Back Better to strengthen national resilience in the face of the inevitable multi-hazard disaster risks that are confronting and will continue to confront Nepal;

Appreciating the citizen's participation in disaster preparedness, rescue and relief operations, and the post-

disaster reconstruction and recovery with a special focus on marginalized and vulnerable populations;

Considering the proven track record of the Owner Driven Housing Reconstruction Approach with public support in all technical aspects, and strict adherence to the earthquake resistant construction technologies;

Streamlining and empowering the federal and sub-national governments for ensuring housing standards through technical and social handholding of the affected populations;

Valuing the significance of research and innovation in resilient post-disaster reconstruction and development;

Mindful of enhancing national capacity in the heritage sector;

Emphasizing the urgency for bolstering disaster management and authority in legal, institutional, and financial terms;

Accentuating the Development Partners' commitment for collaborative resilient development.

The ICNR agrees to the declaration and relevant stakeholders commit to the following:

- Strengthening local governments in planning, technological and managerial terms;
- Promotion of appropriate technology and human resource capacities for the conservation of heritage monuments and sites;



- Strategic intervention for urban regeneration in the local government's leadership with federal government's technical handholding;
- Linking up reconstruction with livelihood initiatives;
- Further enhancing functional relationships between federal, provincial and local governments;
- Informing the construction of public building and infrastructure with disaster resilient technologies

and scaling up replication of the lessons learned of reconstruction and recovery retrofitting technology nationwide, both in private and public sectors;

Endowing the national apex institution –the National Disaster Risk Reduction and Management Authority – with clear mandate, and governance structure with considerable authority, autonomy and financing for building disaster resilience.

ICNR PROGRAMME SUMMARY



Tuesday 07 December 2021 (21 Mangsir, 2078) – Day 1											
Arrival of international and VVIP guests in country; national and VVIP guests travel to Kathmandu; settling into hotels; Welcome Dinner											
Wednesday 08 December 2021 (22 Mangsir 2078) – Day 2											
13:30 – 15:00 (5 sessions)					15:30 – 17:00 (5 sessions)						
09:00 – 11:30	Opening Ceremony (Regency Ballroom A+B+C)	SP 1: Socio-economic (Godavari Hall)	TS 1: Private Housing (Regency Hall A+B)	TS 2: Housing & Land (Regency Hall C)	TS 3: Heritage (Garden Area Tent)	RTD 1: International Perspective (Kirtipur Hall)	SP 2: Techno-financial (Godavari Hall)	TS 4: Public Building (Regency Hall A+B)	TS 5: Governance (Garden Area Tent)	OS 1: Retrofitting (Regency Hall C)	OS 2: Beneficiaries (Kirtipur Hall)
Thursday 09 December 2021 (23 Mangsir 2078) – Day 3											
09:00 – 10:30 (5 sessions)					11:00 – 12:30 (5 sessions)					15:00 – 16:30	
SP 3: Housing Technology (Godavari Hall)	TS 6: Impact Study (Garden Area Tent)	RTD 2: Development Partners' Perspective (Regency Hall C)	OS 3: Urban Housing (Kirtipur Hall)	SP 4: Urban Housing & Heritage (Godavari Hall)	RTD 4: I/NGO & Private Sector (Regency Hall C)	RTD 5: Political Lens (Garden Area Tent)	RTD 6: NDRF Contd. (Regency Hall A+B)	RTD 7: Communication & Media (Kirtipur Hall)	Closing Ceremony (Regency Ballroom A+B+C)		
Friday 10 December 2021 (24 Mangsir 2078) – Day 4 (Optional)											
Site and field visits: 4 trips – 2 within Kathmandu and 2 to outside valley sites											



ICNR PROGRAMME AGENDA

DAY 1

Tuesday 07 December 2021 (21 Mangsir, 2078) – Day 1

Time	Location	Activity
Prior Evening	Kathmandu	Arrival of international guests in country; settling into hotels. Arrival of national guests in Kathmandu.
17:00 – 19:00	Hotel Hyatt Regency	Welcome dinner (invitees, international and national VVIPs (senior government and donor representatives)

DAY 2

Wednesday 08 December 2021 (22 Mangsir 2078) – Day 2

09:30 – 12:00	Opening Ceremony – Plenary (Regency Ballroom A+B+C)	
Pre-conference audience preparation	Professional MC: Ms. Shivani Thapa Chair: Hon. Foreign Minister Dr Narayan Khadka	
09:30 – 09:35	Arrival of Chief Guest: Rt. Hon. President Bidya Devi Bhandari National Anthem	
09:35 – 09:38	Welcome - Mr. Sushil Chandra Tiwari, Secretary, NRA	
09:38 – 09:40	Conference Inauguration - Rt. Hon. President Bidya Devi Bhandari	
09:40 – 09:43	Rt. Hon. President to launch all ICNR Publications	
09:43 – 09:50	Reconstruction Video - Facilitation Mr. Manohar Ghimire, NRA	
09:50 – 10:10	NRA Corporate Paper Presentation: Mr. Sushil Gyewali, CEO, NRA	



10:10 – 10:15	Beneficiary's perspective from Ms. Chameli Ranamagar, Housing beneficiary, Kavrepalanchwok
10:15 – 11:05	<p>Remarks and video messages from Development Partners:</p> <p>ADB – Mr. Shixin Chen, Vice President (Video message)</p> <p>UNICEF – Mr. George Laryea-Adjei, Regional Director for South Asia</p> <p>SDC – Ms. Patricia Danzi, Director General (Video message)</p> <p>EU – Mr. Janez Lenarcic, European Commissioner for Crisis Management (Video message)</p> <p>WB – Mr. Faris H. Hadad-Zervos, Country Director for Maldives, Nepal and Sri Lanka</p> <p>UN – Mr. Neil Buhne, Reg. Director for the UN Dev. Coord. Office Asia and the Pacific (Video message)</p> <p>Canada – HE Ms. Amanda Strohan, Charge D’Affairs (Video message)</p> <p>Japan – HE Mr. Honda Taro, Parliamentary Vice-Minister for Foreign Affairs (Video message) DCM, Mr. TAMURA to facilitate</p> <p>Norway – HE Ms. Torun Dramdal on behalf of HE Ms. Anne Beathe Tvinnereim, Minister of International Development</p> <p>UK – HE Lord Ahmad of Wimbledon, Minister, FCDO (Video message)</p> <p>USA – HE Randy W. Berry, Ambassador of the United States of America to Nepal</p> <p>China – HE Mr Wang Yi, Minister of Foreign Affairs (Video message)</p> <p>India – HE Dr. S. Jaishankar, External Affairs Minister of India (Video message)</p>
11:05 – 11:10	Remarks: Hon. Finance Minister - Mr. Janardan Sharma
11:10 – 11:20	Remarks: Rt. Hon. President Ms. Bidya Devi Bhandari
11:20 – 11:25	Closing of the opening session: Hon. Dr Narayan Khadka, Foreign Minister
11:25 – 11:30	VVIP photograph session: ICNR Organizing Committee and ICNR Secretariat
11:30 - onward	Break and Lunch



13:30 – 15:00	Scientific Paper Presentation Session 1: Socio Economic (Godavari Hall) 08 December 2021 – Day 2
13:30 – 13:35	Chair/Moderator: Prof. Rajib Shaw - Opening remarks Co-Chair: Prof. Dr Rajesh Dhakal Session Coordinator & Rapporteur: Ms Prathiva Bhandari and Nisha Sapkota - Engineer, NRA
13:35 – 13:43	1 st Paper: Post Earthquake Reconstruction: Rajib Khanal et al
13:43 – 13:51	2 nd Paper: An assessment of livelihoods program: Jharendra Bahadur Singh et al
13:51 – 13:59	3 rd Paper: Household level construction cost: Rajib Khanal et al
13:59 – 14:07	4 th Paper: The influence of reconstruction mandates: Minar Thapa Magar et al
14:07 – 14:15	5 th Paper: Practical approaches to Build Back Better: Kozo Nagami et al
14:15 – 15:00	Moderated Q + A and closing remarks by the Chair

13:30 – 15:00	Thematic Session 1 (Regency Hall A+B) 08 December 2021 - Day 2 Private Housing Reconstruction Process & Technology
13:30 – 13:35	Chair: Dr. Chandra B. Shrestha, EC Member, NRA - Opening remarks Moderator: Ms. Pinky Singh Rana Session Coordinator & Rapporteur: Mr. Shyam Mani Kafle, DPD, NRA
13:35 – 13:42	Documentary Facilitation: Mr. Shyam Mani Kafle
13:42 – 13:55	Internal Presentation: Mr. Jhapper Singh Vishokarma – DPD, CLPIU (Building & Housing)
13:55 – 14:15	External Presenters: <ul style="list-style-type: none"> ■ Mr. Kamran Akbar, World Bank ■ Mr. Tomoki Miyano, OCG, EHRP consultant, JICA
14:15 – 14:45	Commentators: <ul style="list-style-type: none"> ■ Ms. Luri KC (Facilitation: D. N. Sharma) ■ Ms. Nishi Arora, SS (Reconstruction), Embassy of India tbc. ■ Mr. David Mann, Deputy Director, Env. & Resilience Office, USAID ■ Mr. V. Thiruppugazh, NDMA, India ■ Mr. Surendra Mohan Shrestha, DDG, DUDBC
14:45 – 15:00	Q + A including closing remarks by the Chair



13:30 – 15:00	Thematic Session 2 (Regency Hall C) 08 December 2021 - Day 2 Housing Reconstruction (Land, Vulnerable Groups and Resettlement)
13:30 – 13:35	Chair: Mr. Dhruba P. Sharma, EC Member, NRA - Opening remarks Moderator: Dr Ramesh Guragain Session Coordinator & Rapporteur: Mr. Deepak Lamichhane, US, NRA
13:35 – 13:42	Documentary Facilitation: Mr. Deepak Lamichhane, US, NRA
13:42 – 13:55	Internal Presenter: Mr. Bharat Aryal, Joint Secretary, NRA
13:55 – 14:05	External Presenter: Ms. Amanda Duff, Reconstruction Lead, British Embassy, Kathmandu
14:05 – 14:45	Commentators: <ul style="list-style-type: none"> ■ Ms Shyam Maya Ghale, Pahirebansi, Rasuwa (Facilitation: Jagat Basnet) ■ Mr. Roger Sutton, CERA, New Zealand ■ Mr. Vivek Rawal, UNDP ■ Mr. Jagat Basnet
14:45 – 15:00	Q + A including closing remarks by the Chair

13:30 – 15:00	Thematic Session 3 (Garden Area Tent) 08 December 2021 - Day 2 Conservation of Heritage Monuments and Sites
13:30 – 13:35	Chair: Mr. Kishore Thapa, SC Member, NRA - Opening remarks Moderator: Mr. Deepak Raj Joshi Session Coordinator & Rapporteur: Mr. Kaji Man Pyakurel, AO, DoA
13:35 – 13:42	Documentary Facilitation: Mr. Kaji Man Pyakurel
13:42 – 13:55	Internal Presentation: Dr. Suresh Shrestha, US DoA
13:55 – 14:05	External Presentation: Dr. Rohit Jigyasu, ICCROM



14:05 – 14:45	<p>Commentators</p> <ul style="list-style-type: none"> ■ Mr. Roshan Kaji Tuladhar, Ranipokhari User Committee ■ Dr Lochan Rijal, KU ■ Ms. Fang Weijia, Embassy of PRC ■ Mr. Michael Croft, Representative for Nepal, UNESCO ■ Ms. Paromita De Sarkar, Project Manager, INTACH, ■ Mr. Garrett Wilkerson & Dhurba Shah, U.S. Embassy ■ Mr. Kanak Mani Dixit, KVPT
14:45 – 15:00	Q + A including closing remarks by the Chair

13:30 – 15:00	<p>Round Table Discussion 1 (Kritipur Hall) 08 December 2021- Day 2 Nepal's Reconstruction and Recovery from the International Perspective</p>
13:30 – 13:40	<p>Chair: Ms. Maggie Stephenson - Opening remarks</p> <p>Moderator: Mr. Anil Chitrakar</p> <p>Session Coordinator & Rapporteur: Dr. Youb Raj Poudel, DPD, CLPIU (Education)</p>
13:40 – 14:00	Discussion Paper Presenter: Mr. Surya Narayan Shrestha
14:00 – 14:40	<p>Panellists</p> <ul style="list-style-type: none"> ■ Mr. Sushil Gyewali, CEO, NRA, Nepal ■ General Nadeem Ahmed, Former CEO, ERRA, Pakistan ■ Mr. Roger Sutton, Former CEO, New Zealand ■ Mr. Kamal Kishore, Member Secretary, NDMA, India
14:40 – 15:00	Conclusion and way forward - Session Chair



15:30 – 17:00	Scientific Paper Presentation Session 2: Techno-financial assistance (Godavari Hall) 08 December 2021 - Day 2
15:30 – 15:35	Chair/Moderator: Prof. Dr Tara N. Bhattarai, SC Member, NRA - Opening remarks Session Coordinator & Official Rapporteur: Mr. Surat Sunar, Engineer, NRA
15:35 – 15:43	1st Paper: Reconstruction assistance in rural Nepal: Devraj Gautam et al
15:43 – 15:51	2nd Paper: An analysis of use and effectiveness: Ram Krishna Sharma et al
15:51 – 15:59	3rd Paper: Communicating to reduce disaster risk: Sanjib Saha et al
15:59 – 16:07	4th Paper: Inclusion of the poor and vulnerable: Vivek Rawal et al
16:07 – 16:15	5th Paper: Post earthquake housing survey: Chandra. B. Shrestha et al
16:15 – 17:00	Moderated Q + A and closing remarks by the Chair
15:30 – 17:15	Thematic Session 4 (Regency Hall A+B) 08 December 2021 - Day 2 Reconstruction of Public Building & Infrastructure
15:30 – 15:35	Chair: Dr. Hariram Parajuli, EC Member, NRA - Opening remarks Moderator: Ms. Pinky Singh Rana Session Coordinator & Rapporteur: Mr. Bipin Gautam, CLPIU, (Building & Housing)
15:35 – 15:42	Documentary Facilitation: Mr. Bipin Gautam
15:42 – 16:15	Internal Presentation: <ul style="list-style-type: none"> ■ Dr Youb Raj Paudyal – DPD, CLPIU (Education) ■ Mr. Lila Khatiwada – DPD, CLPIU (Building & Housing) ■ Mr. Narayan Prasad Shrestha, PD, CLPIU (GMALI)
16:15 – 16:25	External Presentation: Mr. Naresh Giri, ADB



16:25 – 17:00	<p>Commentators:</p> <ul style="list-style-type: none"> ■ Mr. Heramba Raj Kadel, Head Teacher, Vishwo Niketan S.S. (Facilitation: Dr. Youb Raj Paudyal) ■ Mr. Makar Upreti, Budeni DWSS, Tadi, Nuwakot (Facilitation: Kiran Wangle) ■ Ms. Sara Wessels & Tenzin Chokteng – USAID ■ Mr. Roger Sutton, New Zealand ■ Mr. Mark Waltham, Chief of Education, UNICEF ■ Prof. Dr. Rajesh Dhakal, UOC, New Zealand ■ Mr. Krishna Lamsal, JICA
17:00 – 17:15	Q + A including closing remarks by the Chair

15:30 – 17:00	<p>Thematic Session 5 (Garden Area Tent) 08 December 2021 - Day 2 Governance and Financial Framework</p>
15:30 – 15:35	<p>Chair: Mr. Shanker Das Bairagi, Chief Secretary, GoN - Opening remarks Moderator: Mr. Deepak Raj Joshi Session Coordinator & Rapporteur: Ms. Nita Sharma, US, NRA</p>
15:35 – 15:42	<p>Documentary Facilitation: Ms. Nita Sharma</p>
15:42 – 15:55	Internal Presenter: Mr. Sushil Chandra Tiwari, Secretary, NRA
15:55 – 16:05	External Presentation: Dr Nigel Fisher
16:05 – 16:45	<p>Commentators:</p> <ul style="list-style-type: none"> ■ Mr. Bishnu D. Bhatta, Chairperson, Barpark Sulikot R. Muni. Gorkha ■ Mr. Shanta Man Tamang, Chairman DCC - Nuwakot ■ General Nadim Ahmed, Pakistan ■ Mr. Paul E. Rosenberg, UNDRR Office, Japan ■ Mr. Yuba Raj Bhusal, Former CEO, NRA ■ Mr. Leela Mani Poudel, Former Chief Secretary, GoN
16:45 – 17:00	Q + A including closing remarks by the Chair



15:30 – 17:00	Open Session 1 (Regency Hall C) 08 December 2021 - Day 2 Retrofitting of Private Housing and Public Buildings
15:30 – 15:35	Chair/Moderator: Mr. Tim Hart, Retrofitting Specialist, Build Change - Opening remarks Session Coordinator & Rapporteur: Mr. Jhapper Singh Vishokarma, DPD, CLPIU (Building & Housing)
15:35 – 16:15	Discussion papers: <ul style="list-style-type: none"> ■ Ms. Liva Shrestha - Build Change /UNOPS Experience ■ Dr. Ramesh P. Guragain - NSET Experience ■ Prof. Dr. Gokarna Bahadur Motra - Public Buildings ■ Dr. Rajendra Desai, UNDP
16:15 – 16:45	Commentators: <ul style="list-style-type: none"> ■ Ms. Luri KC (Facilitation: Mr Deependra N. Sharma) ■ Mr. Ram P. Timilsina (Facilitation: Mr Ranjan Dhungel) ■ Mr. Sushil Poudel & Ms. Kalpana Aryal, USAID ■ Ms. Nima Sthapit ■ Mr. Bharat Pradhan ■ Prof. Dr Prem Nath Maskey
16:45 – 17:00	Q + A including closing remarks by the Chair
15:30 – 17:00	Open Session 2 (Kirtipur Hall) 08 December 2021 - Day 2 Reconstruction from Beneficiaries, Local and Provincial Government Perspectives
15:30 – 15:35	Chair: Mr. Ashok Byanju, Chair, MuAN - Opening remarks Moderator: Mr Anil Chitrakar Session Coordinator & Rapporteur: Mr. Eak Nath Bastola, Section Officer, NRA
15:35 – 15:55	Discussion paper presentation: <ul style="list-style-type: none"> ■ Mr. Hom N. Shrestha, Chair, NARMIN ■ Mr. Bimal Pokharel, ED, Provincial Centre for Good Governance



15:55 – 16:35	<ul style="list-style-type: none"> ■ Minister of Internal Affairs, Gandaki Province ■ Minister of Internal Affairs, Bagmati Province ■ Minister of Internal Affairs, Province 1 ■ Minister of Internal Affairs, Lumbini Province ■ Mr. Narayan B. GC, Chairman, Ribdikot Rural Municipality, Palpa ■ Mr. Rajan Raj Panta, Mayor, Gorkha Municipality ■ Mr. Shiva Sundar Baidhya, Chairman, Kathmandu DCC, Gorkha Mr. Gopal Tamang, Chairman, Sindhupalchowk DCC
16:35 – 17:00	Q + A including closing remarks by the Chair

DAY 3

Thursday 09 December 2021 (23 Mangsir 2078) – Day 3

09:00 – 10:30	Scientific Paper Presentation Session 3: Housing Technology (Godavari Hall) 09 December 2021 - Day 3
09:00 – 09:05	Chair/Moderator: Er. Jitendra Bothara - Opening remarks Session Coordinator & Rapporteur: Ms. Pratibha Bhandari & Ms. Nisha Sapkota, NRA
09:05 – 09:13	1st Paper: Building typologies and code compliance: Rajesh K. Shrestha et al
09:13 – 09:21	2nd Paper: Effects of horizontal seismic band: Santosh Yadav et al
09:21 – 09:29	3rd Paper: Construction technology of multi-tiered temples: Rabina Shilpakar
09:29 – 09:37	4th Paper: Comparing seismic retrofitting approaches: Sandeep Man Shakya et al
09:37 – 09:45	5th Paper: Earthquake damage prediction of buildings: Subash Ghimire et al
09:45 – 10:30	Moderated Q + A and closing remarks by the chair



09:00 – 10:30	Thematic Session 6 (Garden Area Tent) 09 December 2021 - Day 3 Impact study & Livelihood
09:00 – 09:05	Chair: Dr Yuba Raj Khatiwada, Former Finance Minister - Opening remarks Moderator: Ms. Pinky Singh Rana Session Coordinator & Rapporteur: Mr. Ram K. Shrestha, Economist, NRA
09:05 – 09:12	Documentary Facilitation: Mr. Ram Kumar Shrestha
09:12 – 09:27	Internal Presentation: Dr. Bishnu Bhandari, EC Member, NRA
09:27 – 09:42	External Presentation: Dr. Govinda Nepal, Former Member. NPC
09:42 – 10:20	Commentators: <ul style="list-style-type: none"> ■ Mr. Shambu Tamang, Shivapuri, Nuwakot ■ Ms. Radhika Shrestha, Kathmandu (Facilitation: Ms. Tashi Lama, NRCS) ■ Ms. Jasmine Rajbhandary, Senior Social Protection Specialist, WB ■ Mr. Paul Rosenberg, UNDRR ■ Ms. Lena Michaels, Asia Foundation ■ Prof. Dr Govinda Pokharel, Former CEO, NRA
10:20 – 10:30	Q + A including closing remarks by the Chair

09:00 – 10:30	Round Table Discussion 2 (Regency Hall C) 09 December 2021 - Day 3 Reconstruction from Development Partners' perspectives
09:00 – 09:05	Chair: Dr Bindu Lohani - Opening remarks Moderator: Mr. Deepak Raj Joshi Session Coordinator & Rapporteur: Ms. Rita Lamsal, Section Officer, NRA
09:05 – 09:20	Setting context: Mr. Arnaud Cauchois, ADB Country Director Internal paper: Development Partners' Contributions to Nepal's Reconstruction Mr. Bhagawan Aryal, JS, NRA



09:20 – 10:15	<p>Participants: entities and individuals</p> <ul style="list-style-type: none"> ■ Mr. Ryan Webb, First Secretary, Embassy of Canada ■ Ms. Yumiko Asakuma, Chief Representative, JICA Nepal Office ■ Ms. Karun Bansal, FS (Development Partnership & Reconstruction), EoI ■ Mr. Barnardo Cocco, UNDP ■ Mr. James McQuen Patterson, Deputy Representative, UNICEF ■ Mr. Komal Karki, Country Manager, UNOPS ■ Mr. David Mann, Tenzin Chokteng, Sara Wessels, USAID ■ Mr. Hemang Karelia, World Bank ■ Mr. Yug Raj Pandey, US, IECCD
10:15 – 10:30	Conclusion and way forward - Session Chair

09:00 – 10:30	Round Table Discussion 3 (Regency Hall A+B) 09 December 2021 - Day 3 Moving towards Resilience: Nepal Disaster Resilient Framework (NDRF)
09:00 – 09:05	<p>Chair: Mr. Sushil Gyewali, CEO, NRA - Opening remarks</p> <p>Moderator: Mr. Anil Chitrakar</p> <p>Session Coordinator & Rapporteur: Ms. Anita Niraula, Joint Secretary, NDRRMA</p>
09:05 – 09:25	Paper presenter: Mr. Anil Pokhrel, CE, NDRRMA



<p>09:25 – 10:20</p>	<p>Participants: entities and individuals</p> <p>Development Partners:</p> <ul style="list-style-type: none"> ■ Mr. Charlotte Benson, Principal Disaster Risk Management Specialist, ADB ■ Mr. Simon Lucas & Mr. Sumit Dugar, British Embassy ■ Mr. Yoshiki Ehara, Senior Representative, JICA Nepal ■ Mr. Vijay Singh, UNDP ■ Mr. Chiranjibi Gautam, Environment and Climate Change Specialist, UNOPS USAID, ■ Mr. Sushil Poudel, USAID 	<p>Government:</p> <ul style="list-style-type: none"> ■ Provincial Internal Ministers ■ Provincial Members of Parliament ■ Executive Member, NRA ■ JS, MOHA ■ JS, MOFAGA ■ JS, NPC ■ JS, NRA ■ JS, MOF ■ JS, MOFE ■ DG, DUDBC ■ DG, DMG ■ JS, MoEST ■ JS, MoUD ■ JS, MoFE ■ JS, MoALD ■ JS, MoWS ■ Rep., APF Nepal ■ Leader, Consultant Team <p>Professional/Academic Reps.:</p> <ul style="list-style-type: none"> ■ Ms. Kamala Sharma, Dty Mayor, Siddhalekh Rural Municipality, Dhading ■ Mr. Bharat KC, Mayor, Bhimeshwor Municipality ■ Mr. Santa Man Tamang, Chairman Nuwakot DCC ■ Dr Amod Mani Dixit, Disaster Expert ■ Dr Ganga Lal Tuladhar, Former Minister & Disaster Expert
<p>10:20 – 10:30</p>	<p>Conclusion and way forward - Session Chair</p>	



9:00 – 10:30	Open Session 3 (Kirtipur Hall) 09 December 2021 - Day 3 Urban housing and way forward
09:00 – 09:05	Chair: Mr. Purna Kadariya - Opening remarks Moderator: Dr. Ramesh Guragain Session Coordinator & Rapporteur: Mr. Bipin Gautam, CLPIU (Building & Housing)
09:05 – 09:30	Presentation of discussion paper: <ul style="list-style-type: none"> ■ Mr. Surya Bhakta Sangachhe ■ Mr. Mani Ram Singh Mahat
09:30 – 10:05	Commentators: <ul style="list-style-type: none"> ■ Mr. Pushkar Manandar, Pillanche Project ■ Mr. Subarna Shrestha, Mayor, Shankarapur Municipality ■ Mr. Manjeet Raj Pandey, UWS ■ Mr. Dipendra Nath Sharma, Former Secretary, MoUD ■ Ms. Sangeeta Shrestha, Owner, Dwarika's Hotel ■ Mr. Chiri B. Maharjan, Mayor, Lalitpur Metropolitan City ■ Mr. Saroj Basnet, Vice Chair, City Plan. Council, Ktm. Metro. City
10:05 – 10:30	Q + A including closing remarks by the Chair

11:00 – 12:30	Scientific Paper Presentation Session 4: Urban Housing and Heritage (Godavari Hall) 09 December 2021- Day 3
11:00 – 11:05	Chair/Moderator: Er. Jitendra Bothara - Opening remarks Session Coordinator & Rapporteur: Mr. Surat Sunar, Engineer, NRA
11:05 – 11:13	1st Paper: Community led post-earthquake heritage: Rupesh Shrestha
11:13 – 11:21	2nd Paper: Community-based participatory approach: Rija Joshi
11:21 – 11:29	3rd Paper: Unravelling constraints of urban housing: Chandra B. Shrestha et al
11:29 – 11:37	4th Paper: A comparative investigation: Manohar Rajbhandari et al
11:37 – 11:45	5th Paper: Urban regeneration of Dhwalkha: Surya Bhakta Sangachhe
11:45 – 12:30	Moderated Q + A and closing remarks by the Chair
12:30 – 15:00	Lunch and meet and greet



11:00 – 12:30	Round Table Discussion 4 (Regency Hall C) 09 December 2021 - Day 3 Reconstruction from I/NGOs & Private Sector Organisations' viewpoints
11:00 – 11:05	Chair: Dr. Bishnu Bhandari, Executive Committee Member, NRA - Opening remarks Moderator: Ms. Pinky Singh Rana Session Coordinator & Rapporteur: Mr. Bishnu Subedi, US, NRA
11:05 – 11:30	Discussion paper presenters: <ul style="list-style-type: none"> ■ Mr. Minar Thapa Magar, HRRP ■ Mr. Sushil Koirala, AIN ■ Mr. Arjun Bhattarai, NGO Federation ■ Mr. Aang Dorje Lama, Vice President, FCAN
11:30 – 12:15	Panellists: <ul style="list-style-type: none"> ■ Ms. Christy Stickey, Nat. Director, Habitat for Humanity (Facilitation: HRRP) ■ Mr. Dhruba Thapa, President, Cement Manufacturers Association of Nepal President, Brick Association ■ Mr. Kumar Panthi, NRNA ■ Mr. Min Man Shrestha & Mr. Bidur Dhamala – Housing Association ■ Ms. Sharmila Karki, NRA Advisory Council ■ Ms. Bhawani Rana, NRA Advisory Council
12:15 – 12:30	Q + A including closing remarks by the Chair
12:30 – 15:00	Lunch and meet and greet



11:00 – 12:30	Round Table Discussion 5 (Garden Area Tent) 09 December 2021 - Day 3 Reconstruction through a Political Lens
11:00 – 11:05	Chair: Mr. Dhruba P. Sharma, EC Member, NRA - Opening remarks Moderator: Mr. Deepak Raj Joshi Session Coordinator & Rapporteur: Mr. Ram Saran Sapkota, PD, CLPIU – Education
11:05 – 11:25	Discussion Paper Presenter: <ul style="list-style-type: none"> ■ Dr Ganga Lal Tuladhar, Former MP and Disaster Expert ■ Mr. Dhruba P. Sharma, EC Member, NRA
11:25 – 12:15	Participants: <ul style="list-style-type: none"> ■ Mr. Parasar Sapkota, Ward Chair, Sudal-8, Bhaktapur (Facilitation: Minar Thapa) ■ Hon. MP Bhimsen Das Pradhan ■ Hon. MP Hit Man Tamang ■ Hon. MP Shyam Shrestha ■ Hon. MP Khim Lal Bhattarai ■ Hon. MP Jhip Chirring Lama
12:15 – 12:30	Q + A including closing remarks by the Chair
12:30 – 15:00	Lunch and meet and greet

11:00 – 12:30	Round Table Discussion 6 (Regency Hall A+B) 09 December 2021 - Day 3 Moving towards Resilience: Ensuring Resilience for Social Infrastructures and Public Buildings
11:00 – 11:10	Chair: Mr. Faris Hadad-Zervos, Country Director, WB - Opening remarks Moderator: Mr. Anil Chitrakar Session Coordinator & Rapporteur: Ms. Anita Niraula, JS, NDRRMA
11:10 – 11:30	Setting Context: Mr. Kamran Akbar, WB Paper presenter: Mr. Anil Pokhrel, EO, NDRRMA



11:30 – 12:20	<p>Participants:</p> <p>Development Partners and representatives</p> <ul style="list-style-type: none"> ■ Mr. Simon Lucas & Mr. Sumit Dugar, British Embassy ■ Mr. Vijay Singh, UNDP ■ Mr. Surya Prasad Acharya, Senior Advisor, UNOPS ■ Mohammad Harun Rashid, Chief DRR, UNICEF ■ Mr. David Mann, Mr. Sushil Poudel & Ms. Kalpana Aryal - USAID 	<p>Government:</p> <ul style="list-style-type: none"> ■ Provincial Internal Ministers ■ Provincial Members of Parliament ■ Executive Member, NRA ■ JS, MOHA ■ JS, MOFAGA ■ JS, NPC ■ JS, NRA ■ JS, MOF ■ JS, MOFE ■ DG, DUDBC ■ DG, DMG ■ JS, MoEST ■ JS, MoUD ■ JS, MoFE ■ JS, MoALD ■ JS, MoWS ■ Rep., APF Nepal ■ Leader, Consultant Team <p>Professional/Academic Reps.:</p> <p>Ms. Kamala Sharma, Dty Mayor, Siddhalekh Rural Municipality, Dhading</p> <p>Mr. Bharat KC, Mayor, Bhimeswor Municipality</p> <p>Mr. Santa Man Tamang, Chairman Nuwakot DCC</p> <p>Dr. Amod Mani Dixit, Disaster Expert</p> <p>Dr. Ganga Lal Tuladhar, Former Minister & Disaster Expert</p>
12:20 – 12:30	Conclusion and way forward - Session Chair	
12:30 – 15:00	Lunch and meet and greet	



11:00 – 12:30	Round Table Discussion 7 (Kirtipur Hall) 09 December 2021 - Day 3 Role of communication & Media in reconstruction
11:00 - 11:05	Chair: Dr Nima Nanda Rijal, SC Member, NRA - Opening remarks Moderator: Mr. Binod Bhattarai Session Coordinator & Official Rapporteur: Mr. Ram Krishna Aryal, US, NRA
11:05 – 11:15	Discussion paper presenter: Mr. Manohar Ghimire US, NRA
11:15 – 12:15	Commentators: <ul style="list-style-type: none"> ■ Mr. Pratik Pradhan, Senior Journalist and Editor ■ Mr. Bipul Pokhrel, President, FNJ ■ Ms. Radha Chalise, Senior Correspondent, Gorkhapatra ■ Mr. Ujjawal Prajapati, Media Researcher
12:15 – 12:30	Q + A including closing remarks by the Chair
12:30 – 15:00	Lunch and meet and greet
15:00 – 16:30	Closing Ceremony (Plenary) (Regency Ballroom A+B+C) 09 December 2021 - Day 3
Audience preparation	MC: Shivani Thapa Session Chair: Mr. Sushil Gyewali, CEO, NRA ICNR Video Presentation
15:00 – 15:05	Arrival of Chief Guest: Rt. Hon. Prime Minister Sher Bahadur Deuba National Anthem
15:05 – 15:15	Conference Declaration: Dr Chandra B. Shrestha, EC Member, NRA



15:15 – 15:40	Remarks from Local Governments, Ministers, Heads - Bilateral and Multilateral Agencies: MuAN: Mr. Ashok Byanju, Chair, MuAN ADB: Mr. Arnaud Cauchois, Country Director, Nepal Resident Mission WB: Mr. Hartwig Schafer, Vice President, South Asia Region, WB (video message) UNDP: Ms. Kanni Wignaraja, Assistant Secretary General, UNDP (video message) JICA: Ms. Yumiko Asakuma, Chief Representative UK: Mr. Ben Mellor, Director India and Indian Ocean Directorate, FCDO USAID: Ms. Sepideh Keyvanshad, USAID Nepal Mission Director India: Mr. Karun Bansal, FS (DP&R), EoI China: H.E. Ambassador Ms. Hou Yanqi, Ambassador, PRC
15:40 – 15:47	Remarks: Hon. Bishnu Poudel, Former Minister, UML
15:47 – 15:55	Honouring reconstruction contributors
15:55 – 16:05	Remarks: Rt. Hon. Prime Minister Mr. Sher Bahadur Deuba
16:05– 16:15	Concluding Remarks: Mr. Sushil Gyewali, CEO, NRA



DAY 4

Friday 10 December 2021 (24 Mangsir 2078) – Day 4 (Optional)

Time	Activity
07:00 – 08:30	Breakfast and meet & greet
09:00 – 12:30	<p>Package 1: Hotel Hyatt – Ranipokhari – Durbar School – Dharahara – Basantapur Durbar Square – Facilitation – Mr. Bharat Aryal</p> <p>Package 2: Hotel Hyatt – Bhaktapur Retrofitted Houses – Bhaktapur Durbar Square: Facilitation – UNOPS</p> <p>Package 3: Hotel Hyatt – Patan Durbar Square – Pillanche Housing and Tourism Project – Patan High School – Facilitation: Dr. Rohit Ranjitkar and Mr Amit Joshi</p>
12:30 – 14:00	Packed Lunch
14:00 - onward	Departure



II. Outside of Kathmandu Valley

Package 1: Travel Team from UNOPS

Baburam Fyuba	baburamf@unops.org	9801246740, 9840364193
Dulari Tharu	dularit@unops.org	9848042404

Time	Activities	Remarks
By 8am	Pick up guests	Venue to be confirmed
08:00 - 0930	Travel to Chhatre Deurali, Dhading (via Sitapaila - Ramkot - Bhanjyang Pokhari)	
0930 - 1000	Arrive at Retrofitted House and House Tour Briefing from UNOPS - Household Selection Technical Aspects: Retrofitting type/ model and process	Location: Dhading, Odare, Chhatre Deurali, Dhunibesi Municipality, Ward No 1 [GPS 27.753N, 85.232E]
1000 - 1030	Meet and discuss with the beneficiaries	Opportunity to engage with other retrofitting beneficiaries as well
1030 - 1100	Light snacks at Bhanjyang Pokhari (Packed Lunch)	Option to have lunch back in hotel
1100-1230	Arrive in Kathmandu	

Note: 11 KM from Sitapaila Chowk to Bhanjyan Pokhari and 3 Km off road from Bhanjyangpokhari to Odare Community

DAY 1

07 DECEMBER 2021

Arrival of guests & welcome dinner

The NRA organized a welcome dinner to the guests from abroad and outside of the Kathmandu Valley. The participants and contributors from USA, UK and New Zealand participated. The beneficiaries from various rural earthquake affected districts also attended. All participants were welcomed by Mr. Sushil Gyewali, the Chairperson of the ICNR Organizing Committee and Dr. Chandra B. Shrestha, the ICNR Convenor.



ICNR-2021 PROGRAMME

08 – 09 DECEMBER 2021



DAY 2

08 DECEMBER 2021

OPENING CEREMONY



Mr. Sushil Chandra Tiwari, Secretary, NRA - welcome remarks

Mr. Sushil Chandra Tiwari, the Secretary of NRA, on behalf of National reconstruction Authority, warmly welcomed Right Honourable President of Nepal Ms. Bidya Devi Bhandari, the Chief Guest of the opening session of ICNR 2021. Along with this, Mr. Tiwari welcomed all the high-level dignitaries, delegates and eminent scholars and others participating in the session from all over the country and abroad.

Highlighting the objective, Mr. Tiwari said that ICNR 2021 was held to share the experience and lessons of reconstruction in Nepal to the national and international communities. With strong commitment of the Nepal Government and willingness to support of the development partners, Nepal was able to complete most of the recovery activities with the principle of Building Back Better. At the closure of his welcome speech, Mr. Tiwari humbly requested everyone to show their active participation for the success of the conference.

Rt. Hon. President of Nepal Ms. Bidya Devi Bhandari - Conference Inauguration

Right Honourable President Ms. Bhandari inaugurated the conference by lighting the lamp and also launched some important publications of NRA, including its corporate paper, The Compendium Part A and B. Then a video was shown covering glimpses of the journey from devastation to reconstruction, to resilience.



Er. Sushil Gyewali, CEO of NRA - Corporate Paper Presentation

Mr Gyewali presented NRA's corporate paper entitled "Nepal's Journey from Reconstruction to Resilience". He presented loss and damage caused by earthquake, the huge challenges of reconstruction, generous support of development partners in Nepal's rebuilding, Governance structures and principles of reconstruction, lessons of reconstruction and ways forward. For reconstruction, NRA was established on 25th December 2015. The Mega Campaign was announced on 16th January 2016. Responding to the Post Disaster Needs Assessment, the international community pledged USD 4.1 billion to support Nepal in its rebuilding process in the first ICNR held during 14-15 June 2015.



The principle of 'Build Back Better' and the 'Leave No one Behind' approaches were embedded in designing the policy framework. He informed the audience of the dual purpose of ICNR 2021 – to share Nepal's reconstruction experience with the global community, and to design a road map for the future for making a disaster resilient Nepal. He informed that most of reconstruction activities were completed, the investment on which generated 1-3 percent GDP over the reconstruction years and more



than 400 million workdays of employment for more than 1.1 million skilled and semiskilled workers.

Mr. Gyewali highlighted 5 key lessons of Nepal's reconstruction. He maintained that for any reconstruction of this scale to be a success, the country requires 1) strong determination of political leadership; 2) consensus building; 3) an autonomous entity with legal mandates and authority; 4) people and communities at the centre, and 5) adherence to the principle of build back better and no one left behind. In the case of Nepal Mr. Gyewali recommended that disaster resilient development should be an integral part of the development agenda, and that a green, resilient and inclusive approach should be the reconstruction modality. He added that a strong NDRRMA should look at macro level planning, coordination and facilitation, with an institutional set up for disaster risk reduction and management.

Ms. Devaki Gajurel - Beneficiary from Likhu Municipality, Nuwakot District (Housing Reconstruction Programme Beneficiary)

Ms. Gajurel shared that the support which she received from the housing reconstruction programme was really instrumental to build a new house after the earthquake. The new house is safe and resilient and her family are happy to have this house. If she could not have received the grant, she would not have been able to construct her new house. She expressed her gratitude to the people and organisations who helped in this initiative.

Remarks sharing by development partners

ADB: Mr. Shixin Chen, Vice President (Video message)

On behalf of ADB, Mr. Shixin in his video message expressed sincere thanks to GoN for successfully leading 6 years of post-earthquake reconstruction, with remarkable achievements. Despite devastating effects of earthquake and sufferings, GoN showed strong leadership in reconstruction efforts since the beginning and that continued during the COVID 19 pandemic too. ADB remained a prominent partner in reconstruction programs with GoN since the early phases of 2015 and to date. ADB's reconstruction support to GoN focussed mainly on four areas: 1) school building reconstruction, 2) housing reconstruction, 3) government buildings, and 4) roads and highways. ADB also supported job creation through skill-based training to technical labourers involved in reconstruction works. ADB supported micro credit facilities to over 60,000 affected HHs, mainly addressing women and disadvantaged groups. ADB also supported the revision to the National Building Code to make buildings more resilient.

Mr. Shixin thanked all ADB's supporters including Government of Japan and US Government for providing resources to support in Nepal's earthquake reconstruction. Mr. Shixin assured that ADB would continue to support GoN to achieve its national reconstruction mandate and goal of being a disaster resilient nation.



UNICEF: Mr. George Laryea-Adjei, Regional Director for South Asia

Mr. Laryea-Adjei expressed two important lessons observed in the reconstruction of Nepal. Firstly, Nepal has focused on the development of human capital along with reconstruction of physical infrastructure. Secondly, Nepal has put emphasis on comprehensive school safety and has trained students, teachers, and school management, and local government to promote school safety along with the reconstruction of destroyed school infrastructure.

Another good lesson was the social assistance scheme - helping communities to recover and laying the foundation for a shock-responsive social protection system, which has been embedded in the 15th periodic plan and the new social protection strategy. He congratulated the GON for putting an emphasis on the social part of recovery. He wanted to draw attention to another urgent priority, which will be fundamental toward the continued journey on establishing a resilient society and across the South Asia region. This is the impact of climate change and associated natural disasters. UNICEF has concluded a study on Nepal that shows that more than 80% of children and young people who were interviewed had a direct impact from climate change on their day to day lives. In Nepal, those who were killed and injured from the disaster during the last five years included children and young people. This, combined with this impact of covid, which is affecting many households in the country. We know that leaving no one behind, leaving no child behind, leaving no women behind, is a sure catalyst for a resilient future. Children and youth can be the agents of change for building a resilient future. Reconstruction is also from where we are coming from, and resilience is where

we are heading towards. UNICEF looks forward to continuing to work with the government and people of Nepal and partners to build upon these good practices and build a more resilient society.

SDC: Ms. Patricia Danzi, Director General (Video message)

Ms. Danzi from the Swiss Development Cooperation expressed her profound gratitude and appreciation for being part of this visible recovery work in Nepal's post-earthquake recovery and reconstruction. In her initial remarks she recalled the devastating earthquake which resulted in massive destruction and fear and sufferings. After she stated that due attention must be given to the recovery of the most vulnerable population, with adherence to the leave no one behind principle. Six years later, with the efforts of the Nepali people, the country has visibly recovered despite many challenges.

Switzerland has supported Nepal in its efforts to ensure relief, recovery and reconstruction. We shared a joint vision of building back better once basic needs were covered. As an illustration of such support: i) 310 km of roads and 79 bridges were rebuilt to restore the country's lifelines, ii) 11600 families that lost their homes reconstructed earthquake proof houses, and iii) Over 4000 young women and men underwent earthquake resilient masonry training. This vocational training addressed construction needs of the country. Some lessons have been learned from Nepal's reconstruction experience. Ms. Danzi mentioned two lessons: 1) strengthening of local government is key for responding first-hand to such disaster, and 2) It is crucial to include the most vulnerable from the outset of reconstruction planning, to address the principle of "Leave no



one behind". Finally, she maintained that Nepal and Switzerland share a longstanding friendship. Switzerland shall continue to offer our support in order for Nepal's communities to be more resilient to shocks.

European Union: Mr. Janez Lenarcic, European Commissioner for Crisis Management (Video message)

Mr. Lenarcic recalled the deadly earthquake and said that immediately after the devastating Gorkha Earthquake 2015, Europe was there to help Nepal in immediate response following the exhibition of European Union Civil Protection mechanism. An impressive response by no less than sixteen of our member states followed. We immediately deployed a search and rescue team, expert structural engineers, and water purification equipment. EU also provided urgent relief supplies, shelters, emergency health care, and livelihood support, as well as logistical support. Within the first year after the earthquake, more than 15 EU humanitarian actions directly reached 620,000 people in Nepal. Further on, we mobilized all our financial instruments to support our partners in Nepal. EU provided over 100 million euros of our development funding for earthquake recovery, reconstruction, and technical assistance. As the reconstruction progressed, EU had to address several new challenges. Nepal required trained masons to build the houses according to government seismic standards. There were many vulnerable households that could not rebuild their homes without assistance. We tackled this together with overall national leadership of the reconstruction process, donor support, and government grants. Looking back on these six years of tremendous reconstruction effort, it is truly impressive to see what has been achieved.

It is essential that we continue to work together: the government authority, the development partners, academic institutions, civil society, rural communities. We all need to join forces to build back better and to create a more resilient, sustainable, and prosperous Nepal. The Nepal Disaster Resilient Framework is a very good tool to mitigate anticipated risk. It is also well-suited to build the resilience capacity especially of the most marginalized and vulnerable households. Going forward, The European Union will remain your strong development cooperation partner going forward. And our EU disaster preparedness actions in Nepal will also continue to stay in place, to support you on emergency preparedness and landslide management. With our disaster preparedness action in Nepal, we also continue to stay in place for emergency preparedness and landslide management. Landslides, which are a major challenge in Nepal, are not only threatening livelihoods but also vital infrastructure such as hydropower stations and the planned drinking water supply system for the Kathmandu valley. As we complete reconstruction, we need to take these challenges into account. Today we wish to congratulate on the impressive achievement all of you as official representatives, but also as individuals, have made in reconstruction. We wish to listen to hear the lessons you have learned and how you see future effort needed while building a more resilient Nepal.

The World Bank: Mr. Faris H. Hadad-Zervos, Country Director for Maldives, Nepal and Sri Lanka

- The ICNR 2021 provides a platform to share Nepal's learnings and experiences in reconstruction garnered in the past six years to our national and global audience. It also marks years of relentless



work of the National Reconstruction Authority (NRA) as it completes its tenure later this month.

- We have come a long way in resilient reconstruction, but the journey is far from over. Nepal's high vulnerability to natural disasters and climate change impacts calls for a paradigm shift from 'Reconstruction to Resilience'.
- This interactive forum provides an opportunity to share experience and ideas on disaster recovery and building resilience while also learning from Nepal and other country experiences. I am confident that this collective effort will help identify, demonstrate, and record disaster-related global best practices going forward.

UN: Mr. Neil Buhne, Reg. Director for the UN Dev. Coord. Office Asia and the Pacific (Video message)

On behalf of UN systems, Mr. Buhne, expressed sincere thanks and congratulated GoN and the NRA to reach this stage for the completion of reconstruction of more than 700,000 private houses, schools, and much infrastructure. He stressed that more than 100,000 skilled workforces with knowledge of resilient housing and infrastructure construction are now available to contribute to resilient construction of structures in Nepal. The United Nations has been proud to be a partner in this, working alongside the Government and the National Reconstruction Authority to do this package of reconstruction, which has made such a difference already to the country. Nepal is extremely vulnerable to climate change which causes damage through flooding, landslides, and annual disasters. The most vulnerable people are most affected in the aftermath of any disaster and are more impacted on. This conference has created

the opportunity to increase the awareness, gather up commitment to adapt to protect communities and natural habitats. Thank you very much for convening this conference, where many UN colleagues will be attending in-person. Finally, he expressed his wishes in looking forward to the collaboration of UN with the Government of Nepal, and jointly working towards resilience and the development of Nepal.

Canada: Her Excellency Ms. Amanda Strohan, Charge D'Affairs (Video message)

H.E. Ms. Strohan expressed that she was truly pleased to reflect on the works of National Reconstruction Authority (NRA). She highlighted the Canada's long-term friendship of more than 50 years through bilateral support extended to Nepal that ranged from climate change to humanitarian aid assistance including relief supplies to the hardest hit areas of Nepal during the earthquake response. She also highlighted on Canada's aid assistance to various sectors ranging from food assistance to lactating mothers to livelihood support, mobile clinics including covid-19 response and contribution to the multi donor trust fund (MDTF) for the continued development assistance program. Canada provided USD 120 million for reconstruction, medical support and other humanitarian supports. Canada further provided USD 51.7 million through civil society organisations and the Red Cross Society. With Canadian support, 1.4 million Nepali people received emergency food assistance; over 1 million people benefited from the livelihood programs implemented in the agriculture sector; more than 850,000 people received piped water, hygiene trainings, and more than 50,000 people received medical assistance.

Canada is one of the largest donors to MDTF,



through which it has helped people to rebuild resilient houses, that will save their lives even in future disasters. Canada still supports EHRP. Beyond reconstruction, Canada provided assistance to Nepal to combat COVID-19 and provided vaccines under the Covishield program. Canada will continue to support Nepal in the fields of food security, education, health, green and inclusive development, gender equality, and human rights. The Canada-Nepal bilateral relation is multi-dimensional and the development cooperation multi sectoral.

Japan: His Excellency Mr. Honda Taro, Parliamentary Vice-Minister for Foreign Affairs (Video message) DCM, Mr. TAMURA to facilitate

H.E. Mr. Taro said Japan highly valued the initiative of Prime Minister Sher Bahadur Deuba and the government of Nepal, including the NRA for hosting the international conference on Nepal's Reconstruction 2021. Six years and seven months have passed since the strong earthquake on April 25, 2015. He offered heartfelt condolences to the families of those who lost their precious lives in the earthquake and extended his sympathy to all who were affected. He stated that this conference will provide a unique opportunity to share - both domestically and internationally - its experience and lesson learned as it has recovered from the devastating earthquake. Based on a cordial relationship with Nepal, Japan has proactively contributed to reconstruction of Nepal. Japan dispatched the Japan Disaster Relief Team immediately after the earthquake and it expressed its intention to provide USD 260 million of assistance at the International Conference of Nepal Reconstruction in 2015. Through its assistance, 210 schools and 85,000 houses as well as bridges,

hospitals, and drinking water transmission systems have been reconstructed. Japan has also contributed to Nepal's disaster preparedness by providing technical assistance in the field of disaster risk reduction and capacity assessment. This project has been carried out based on the principle of Build Back Better adapted in the third UN world conference held in Sendai Japan. The essence of BBB is the importance of making recovery so that society emerges from disaster stronger than before. Japan and Nepal are both prone to natural disasters. Japan knows what it takes to recover and the hardships that accompany the process of reconstruction. Japan is honored to have worked together with Nepal based on firsthand experience. Japan would like to continue working closely with Nepal in order to make the friendship even stronger in various fields.

Norway: Her Excellency Ms. Torun Dramdal on behalf of HE Ms. Anne Beathe Tvinning, Minister of International Development

The earthquake was a terrible disaster which took human lives and destroyed schools and health infrastructure. It is difficult to comprehend the massive task the Nepali people, the government of Nepal and its partners had ahead when starting the reconstruction efforts. The Minister congratulated NRA for their leadership for fulfilling their mandate. Norway has supported humanitarian assistance via multilateral channels, supporting the construction of temporary VDC buildings and retrofitting and construction of affected schools. Bilateral cooperation between Norway and Nepal goes beyond reconstruction. Norway is assisting Nepal in the areas of education, renewable energy and good governance. This close partnership will continue further.



UK: His Excellency Lord Ahmad of Wimbledon, Minister, FCDO (Video message)

On Behalf of the UK Government, H.E. Lord Ahmad of Wimbledon congratulated the GoN in its successful operation of Nepal reconstruction interventions. Within the six years since the earthquake, the country has made substantial success with 100 million UK pound assistance provided by the UK Government for earthquake reconstruction initiatives to NRA. The support provided local authorities in the localization of infrastructure following the BBB model. More importantly, the UK Government directly worked to support affected people through the 'no one left behind' approach. The UK has helped over 1 million people across Nepal through reconstruction. Compared to New Zealand that is still rebuilding the nation after it was hit by earthquake in 2011, Nepal's reconstruction has proved successful, though the rebuilding of a resilient nation still lies ahead.

On the verge of NRA's exit from mainstream reconstruction, MoUD- GoN must take this responsibility seriously to complete reconstruction of the remaining infrastructure where local authorities should be involved. GoN should give emphasis to rebuild the remaining infrastructure and maintain sustainability and equally involve affected communities. Nepal's approach of adoption to green shelters is relevant to face up to the challenges of climate change and future disasters. The approach of leave no one behind should be equally adopted in the future continuation of reconstruction. The 2015 earthquake was an exception that resulted in huge displacements of marginalised groups. Therefore, collective and continued action is needed in helping these vulnerable groups. Eighteen percent of the

affected people were vulnerable. Recovery and reconstruction take time. So NDRRMA must take responsibility, along with local authorities, to take the reconstruction agenda forward. We need to take the "Green, Resilient and Inclusive Development" approach into future reconstruction.

Though GoN has achieved an extremely phenomenon accomplishment in past 6 years, challenges still remain ahead. Future actions require adequate preparedness activities and sustainability mechanisms to ensure these achievements are maintained, with their sizeable investment. The UK Government wishes that this ICNR will results in an actionable plan.

USA: His Excellency Mr. Randy W. Berry, Ambassador of the United States of America to Nepal

At the first international conference on Nepal's reconstruction back in 2015, the US Government pledged to stand by Nepal in its time of need. With the passing of six years, it has delivered to that commitment. In total over those six years, the US Government has invested USD 200 million to support recovery and reconstruction processes, and helped Nepal Build Back Better. The result is that collective work has proven extraordinary, and the consequences are that we now have ample opportunity. No country can be fully prepared for every disaster. It is clear that Nepal is now much better prepared for major disasters than it was six years back. The United States responded to the earthquake from day one and assisted search and rescue efforts from the very beginning. The US honors the sons and daughters of Nepal and the US citizens who died in the efforts to provide immediate aid. The United States Government



through USAID, constructed nearly 13,000 temporary learning facilities including WASH stations, allowing students to remain in school and minimize learning disruption. More than 93,000 students continued to learn and ultimately return to safer schools. The US Government partnered with people of Nepal, government, and the National Reconstruction Authority to build thirty-six permanent schools and health facilities that serve more than 237,000 Nepalese. These facilities were built using Nepalese labor and Nepalese expertise to the highest standard and will serve those communities and people for decades to come. Out of thirty-six, reconstruction of thirty-two of those facilities is completed and the remaining four will be completed in the next few months. The US made equally significant investment in housing and housing reconstruction assisting to distribute millions of dollars for housing grants, for resistant homes, and resulting in the training of thousands of disaster safe construction techniques, allowing community members to build and rebuild more than 60,000 houses using safer construction standards.

The US government continues to commit to post earthquake recovery efforts and the American Government's Ambassador fund for cultural preservation has awarded grants of USD 2 million to restore and structurally strengthen Nepal's historic and cultural heritage buildings and temples to their original grandeur. The heritage structure is now more resilient to future natural disasters and ready to be enjoyed by generations to come. We cannot control the timing, scope, and types of Nepal's next major earthquake, floods, or other national disasters. We can control the system and policies and safeguards that are essential to minimizing human and environmental costs. These belong to the Government of Nepal. I am

happy to see the Government of Nepal taking critical steps to strengthen Nepal's disaster preparedness such as creating NDRRMA, working to develop a robust national adaptation plan and strengthening building codes and standards. To support GoN on disaster preparedness efforts, the American Government is investing to increase disaster preparedness in climate change adaptation at all levels for example, assisting the Nepal Government with investing for training construction professionals to better implement the Building Code; assisting municipalities to map risk, and strengthening EWS and training of first responders. We also recognize Nepal as amongst the top climate vulnerable countries around the globe and we are committed to support Nepal on climate adaptation priorities. We are soon launching a major new project to support Nepal's adaptation and biodiversity conservation priorities. Climate challenges required collective action on a presidential scale.

China: His Excellency Mr Wang Yi, Minister of Foreign Affairs

China's search and rescue team arrived in Nepal immediately on the day of the earthquake and helped in rescue operations. China attended the first ICNR 2015 where they pledged NRP 3 billion assistance to the reconstruction efforts. China has supported 25 post disaster reconstruction projects. The Chinese people believe in the saying that a friend in need is friend indeed. China is a country which will be by Nepal's side in any situation. The Chinese people are happy to learn that Nepal aims to graduate by 2026 to developing country status. Along with reconstruction, China is supporting many infrastructure projects including lane extension of Kathmandu ring-road, Arniko highway, and Pokhara



international airport. President Xi Jinping's visit has boosted China-Nepal relations and development commitment.

There are three strategic area of cooperation between Nepal and China: 1) Providing vaccines and helping in combating COVID-19, 2) Supporting post-earthquake recovery by training the people for capacity development, and 3) deepening economic cooperation in the areas of trade and investment, energy and power, climate change and disaster management. Turning Nepal from a land-locked country to a land-linked country, China looks forward continuing development cooperation including cross border trade.

India: His Excellency Dr. S. Jaishankar, External Affairs Minister of India

Dr Jaishankar congratulated GoN and Nepali people for their resilience and rebuilding their lives and communities after the 2015 earthquake. Dr. Jaishankar extended sincere thanks on behalf of the Government of India to GoN in its successful owner driven approach of the reconstruction of private houses after Nepal was hit by a devastating earthquake in 2015. Dr. Jaishankar expressed that ICNR will be a platform to review the support provided by development partners and reflect over the achievements so far. Within 6 years, under the leadership of Rt. Honourable PM, Mr. Narendra Modi, India, as a close neighbour, provided a substantial amount of humanitarian support to affected earthquake families. During 1st donors meet organised June 25th, 2015, then Minister of Foreign Affairs, Late Ms. Sushma Swaraj pledged USD 1 billion support to Nepal in order to rebuild mainly 4 areas of reconstruction: school buildings, health institutions,

private houses, and cultural heritage. After crossing these past 6 years, the Gol has met its pledge and promise on the mandated support.

Gol is overwhelmed by the resilience of the Nepalese people as they have successfully attained collective success through Nepal's reconstruction interventions. Reconstruction of 50,000 private houses as committed by Indian Government has been completed with the owner driven reconstruction approached adopted by GoN. The Indian Government committed USD 150 million as a post-earthquake assistance package for the housing sector to provide financial and technical support for the reconstruction of 50,000 beneficiaries' homes, including USD 100 million grant and USD 50 million under the fourth line of credit. Critical learning from Nepal's reconstruction effort were seen in the futuristic envisioning of a resilient Nepal and the quality of international cooperation that were put forward by GoN. This learning of cooperation also showed a path to solve gaps in parallel to the continuation of best efforts even during the time of COVID 19 pandemic. These were continued by Gol through providing needed medical support, on top of which lies the establishment of the medical oxygen plant in BPKIHS Dharan.

India's development cooperation with Nepal is multi-faceted and multi-dimensional and Gol assures in the ICNR 2021 platform that it stands by Nepal ever after too. Gol has always been the first responder to GoN whenever there is extreme need of humanitarian support for the Nepalese people. The close ties of social and cultural relations between these two countries that stood firmly has been proven to be an effective cooperation. There is still the need to build capacities and imperative need of collective actions to put forward the results and learnings of today, and



for the upcoming days, in appropriate ways.

Mr. Janardan Sharma, Hon. Finance Minister, Government of Nepal

Greeting the participants of ICNR 2021, Mr. Sharma briefed about the loss and damage caused by the earthquake 2015. He also admitted a fact that the disaster was a blessing in disguise to forge political consensus among parties. All the political parties extended full support to the Government of Nepal in conducting rescue and relief operations and executing planned recovery. He also expressed his gratitude to the development partners, diplomatic communities, political parties, civil society organisations and NRN for providing support in search and rescue operations. Nepal has almost completed the reconstruction of public and private buildings and heritage monuments and also developed integrated settlements. Damaged major heritage monuments like Ranipokhari and Dharahara have been reconstructed in the same style but in a resilient way. Nepal not only reconstructed physical infrastructure but also developed the capacity to take critical decisions. The reconstruction process also helped to diffuse resilient technology. Minister Sharma also informed that the remaining tasks will be taken forward by the respective government agencies.

Rt. Hon. President Ms. Bidya Devi Bhandari, Government of Nepal

Right Honourable President Ms. Bidya Devi Bhandari humbly expressed thanks to the graceful presence of all invited guests virtually and in person in the ICNR organised by NRA. Due to the Nepal earthquake of 2015 and its aftershocks, more than 800,000 houses were damaged and, it took lives of more than

9,000 citizens, with 1/3 of the development sector massively affected. Madam President expressed deep condolences to the families that lost their dear ones. Madam President recalled that the Nepal earthquake 2015 was an extremely unforgettable experience faced by this generation of Nepalese people. The untiring and enduring support and cooperation showed by all concerned people including political leaders, government, civil society, affected communities and general public was highly appreciable.

The earthquake of Nepal has given a great deal of lessons to everyone concerned. In the course of implementation of the reconstruction program, insightful lessons drawn were - poor and weak infrastructures cause devastating effects to people and their lives; the BBB model assures strong and resilient buildings while also reducing the impact of disasters. After the formulation of PDNA, GoN organised an international donors meet on 25 June 2015. The international community pledged USD 4.1 billion in the ICNR 2015. GoN hereby through this platform would like to express deep gratitude and sincere thanks to all involved development partners and agencies for their support and cooperation.

A differential approach was needed to address the quality rebuilding of the infrastructures, and therefore NRA was endorsed from Cabinet as a Special Purpose Vehicle on 25 December 2015 by GoN. There were plenty of challenges that gripped the reconstruction works such as political instability, difficulty geography, diversity of people across the affected districts, lack of local elected heads in early phases, and lack of adequate preparedness. But as time passed, and through gained knowledge and learning accumulation, challenges were overcome. Within 3



weeks of the establishment of NRA, major political parties interacted over a roundtable discussion to set up a vision of Nepal's reconstruction. As a result, on 2nd Magh 2072, we started the mega campaign for Nepal's reconstruction. NRA put forward the BBB model to meet objectives of Nepal's reconstruction, and henceforth till date, nearly 700,000 earthquake affected people are back in their private houses. We managed to erect many cultural heritages, from Dharahara reconstruction to Ranipokhari rehabilitation, and from Barpak reconstruction to the reconstruction of many other affected settlements; these are the successes of our joint efforts. With local level restructuring, elected local heads were mobilised through a single framework of reconstruction at local community level.

Nepal's reconstruction shows the strong commitment of the Nepalese people towards resilient homes and communities, which has established critical success stories for our future generations. GoN expresses sincere and humble thanks to all concerned development partners that showed and show solidarity with Nepal in its reconstruction. The lesson accumulation throughout Nepal reconstruction period has been very effective and will continue to remain as a knowledge pool to draw up and roll out the roadmap for a disaster resilient nation.

Dr. Narayan Khadka, Foreign Minister, Government of Nepal - Closing of the Opening Ceremony

Dr. Khadka expressed his high gratitude to Rt. Honourable President Madam Bidhaya Devi Bhandari for her gracious presence. He also commended CEO, NRA for his leadership role. He expressed gratitude to all the bilateral and multi-lateral development

partners who in the first ICNR pledged USD 4.1 billion and continued to provide their support for reconstruction throughout the reconstruction years. Recalling the deadly 2015 earthquake, the foreign minister said though it did shake the land and took a huge toll of property and lives, it could not shake the determination of Nepali people of building back better.

He appreciated achievements made on all fronts from health, education, archaeological buildings, public infrastructure ensuring sustainability, transparency, and public accountability. He expressed his sincere gratitude to all high-level dignitaries for taking their interest and joining hand in hand with the GoN for disaster reduction and sustainable solutions, and in providing support to GoN in its endeavour to successfully completing the post-earthquake recovery and reconstruction. He once again thanked NRA and adjourned the opening session.



SCIENTIFIC PAPER PRESENTATION

SESSION I: SOCIO ECONOMIC

Chair & Moderator: Prof. Dr. Rajib Shaw

Co-Chair: Prof. Dr. Rajesh Dhakal

Session Coordinator & Rapporteur: Ms. Prativa Bhandari and
Ms. Nisha Sapkota, NRA

Prof. Rajib Shaw welcomed the presenters with heartiest congratulations for the very hard work on papers. He emphasized that social recovery after disaster is a never-ending process and always long term. The physical part like building and infrastructure can be completed quickly but the socio-economic aspects will take time.

1st Paper: Post-earthquake reconstruction: Managing debris and construction waste in Gorkha and Sindhupalchok Districts, Nepal – by Rajib Khanal et al

Background:

Fifty eight percent of all housing construction were SMM or BMM, without seismic-resilient features. Almost 9 million Houses damaged produced a huge pile of debris. Debris clean-up is usually undertaken manually. It is economically feasible to recycle up-to 80-90% debris but there exists a policy gap. Reducing and reusing the debris has social, financial and environmental advantages. The research objective was to a) measure the amount of debris produced by a demolished house, and b) identify the reuse status of debris and waste during the reconstruction.

Methodology:

The research question was 'How is debris managed

during reconstruction in rural areas?' The Sample Household: 17,814 HHs (27 HHs/ward/quarter). Indicators used were: Debris (reuse and dispose m³/HHs) & Construction waste (m³ per HHs). For the analysis z- test is performed to determine the mean difference.

Findings/conclusions:

1. 58.12% debris reused in housing reconstruction
2. Most generated debris is local material likes tone/ rubble, wood, mud, roofing and other vegetative waste
3. Remaining debris also reused for retaining walls and land reclamation in shallow areas
4. Debris reused is cost effective and environment friendly
5. Debris and waste management have to be considered as priority during reconstruction periods after disasters



2nd Paper: An assessment of livelihoods program in earthquake affected areas of Nuwakot district, Nepal – by Jharendra Bahadur Singh et al

Background:

Several agencies supported reconstruction and livelihood recovery programs with different approaches. But inadequacy remained in livelihood recovery, sustainability. On other hand less attention was paid to examine whether livelihood of the victims has been restored. Observation shows that highly vulnerable families lagged behind. No assessment of recovery interventions on people's lives was carried out. In this context the objective of the research was to examine livelihood recovery interventions carried out by multiple support agencies, and change in the lives of the beneficiaries - taking into account the process, input and output dimensions.

Methodology:

The study adapts DFID's sustainable livelihood framework taking LNOB/vulnerability systemic approach into consideration. The study area is Nuwakot district. Primary data collected using FGD, KII and direct observations, and secondary information collected through review of relevant literature, progress reports and policy documents.

Research Findings:

1. 80% HHs have new residence. 79% respondents felt increase in service delivery efficiency
2. 80% respondent finds tailored made approach with LNOB is helpful
3. 70% of respondents felt just a little change in living conditions.

4. Preparedness against natural shocks – 35% prepared; 50% no change
5. 42% HHs have increasing trend in income
6. Vulnerable HHs having difficulties in accessing financial services
7. Average annual income increased from NPR 19,476 to 54,656

Conclusions:

- Weak synergy existed among multiple support agencies until elected local government came in place in 2017
- Livelihood of 80% households improved to pre-quake level with most coming out of extreme poverty
- Capacity of beneficiaries increased in asset creation, skill enhancement and institutional linkages
- Need for digitalized multi-purpose database at local level
- A strong 'one-door coordination mechanism' should be developed and maintained
- National level study on the subject warranted, to reach widely acceptable conclusions and recommendations

3rd Paper: Household Level Construction Cost and its Management in Rural Housing Reconstruction in Nepal – by Rajib Khanal et al

Background:

The paper focuses on financial management of housing reconstruction. Housing grant is NPR 300,000 but the median cost for construction: NPR 700,000. Major cost for construction material



and labour. The difference between the grant and median cost shows the financial burden to the affected households and their risk of debt trap. The objective of the research is to document the financial management (Actual construction cost by structure, caste, gender), and to identify the financial burden of rural housing reconstruction (Gap between grant and actual construction cost).

Methodology:

The research question is how people managed the actual reconstruction cost. Sample number is as follows: Gorkha (14,286 HH) & Sindhupalchowk (65,588 HH). Data cleaning: Inter quartile range rule with resistant factor of 1.5, 2.2 and 3. Data analysis: Inferential statistics (ANOVA, Post Hoc).

Research findings:

Average construction cost: NPR 681,138. Cost varies with structures. Average loan amount: NPR 288,728 with 21.85%. Loan amount is significantly different for different structures, castes of house owners, and by different for different lenders. Average loan interest: 21.85%.

Conclusions:

1. Average amount of loan is equal to government grant
2. Average loan taken was highest for Newar-Thakali people, and lowest for Dalits
3. Lowest average interest rate was charged by banks, followed by cooperatives, with highest rates charged from the informal financial sector

4th Paper: The Influence of Reconstruction Mandates and Affordability on Nepal's Post-earthquake Housing Reconstruction – by Minar Thapa Magar et al

Background:

More than 70% have completed housing reconstruction. Average house size from 51-75 m² to 26-50 m². Trend of building is small, 1 or 2-roomed, 1 storey houses. There are risks that many cases of using damaged house for various purpose and the unsafe incremental extension (vertical and horizontal) of the buildings. The study attempts to answer two research questions:

1. How have tranche deadlines and disbursal, and people's affordability affected the size and functionality of reconstructed homes?
2. Are newly reconstructed houses adequate to meet the functional needs of the families?

Methodology:

The study is based on the HH surveys carried out through HRRP between April 2019 to Feb 2020. The number of samples HH stands 568 respondents from 28 out of 32 earthquake affected districts. The study also benefitted from secondary sources of information.

Research findings:

1. Tranche deadline prolonged more than 6 times
2. 1-storey 2 room house required 10 months to complete
3. The median cost to build 1 storey 2 room house is USD\$ 6,300
4. 21.8% out of 568 HHs taken loan at 23-36% interest rate.



5. Average family size is 3 for 1 room. 28.7% houses do not have kitchen and 30.3% do not have toilets

Conclusions:

1. Quantitative progress is observed but qualitative outcomes are to be secured
2. More information required to understand the social and cultural impacts
3. It is necessary to develop safe house extension strategy
4. Further research is needed on Debt Crises, House extension impact on EQ resilience

5th Paper: Practical Approaches to Build Back Better with Inclusive Recovery from Earthquake Disasters: A Discussion Based on the 2015 Nepal Earthquake Recovery Project by Jica – by Kozo Nagami et al

Background:

- “Build Back Better (BBB)”: Sendai Framework priority
- Sendai Framework focused Build Back Better (BBB) principle requires disaster risk reduction in the course of recovery. Inclusive Recovery (IR) includes the principle of no one being left behind.
- BBB and IR are complementary (proper arrangements). This paper overviews BBB and IR in Nepal housing reconstruction; proposes approach for achieving both.

Methodology:

Methodological discussion on how to achieve both BBB and IR boiled down to the chronological overview of progress of the housing reconstruction project in areas supported by JICA and overview of desired approach to achieve both BBB and IR – evaluation of

housing reconstruction project supported by JICA.

Conclusions:

1. BBB and IR are concepts which can complement each other.
2. Need to identify people who are likely to be left behind upfront and extend additional assistance.
3. JICA’s Emergency Housing Reconstruction Project could minimize the risks of vulnerable HHs who would have been left behind over time.
4. Additional assistance was necessary for vulnerable groups, despite their mutual help.
5. Additional assistance should be implemented concurrently with main assistance project from outset.



Questions and Answers:

1. Livelihood presentation: What are the key contributors for the increasing trend of it? What is the status of the market functionality and people access to the market?

Ans: We have combined on farm and off farm activities where there were few agencies, among which one supporting farm and another supporting the capacity building, market and financial support were considered.

2. Did a decrease in the house size and not having attic affect the quality of the life?

Ans: We didn't ask that question about quality but their intention to extend had indicated that the space was not enough, which can affect the quality of life.

3. In your program, were financial institutions focused on supporting the most vulnerable communities?

Ans: There are different programmes where they are linking financial access with the holistic support to ensure vulnerable communities are getting benefits, otherwise without any additional support vulnerable families are stuck in the process.

4. Did you look into any components other than the BBB component, i.e. the social cultural factors that contributed to households' reconstruction process in Nepal?

Ans: Nepal communities have the willingness, and the communities are unique to help each other in the rural areas. We cannot say that context is same in all the affected areas. In Japan, after earthquake, we found similar conditions in rural areas of Japan, and we could thus apply similar approaches in different contexts.

5. In your second presentation the relation between cost and material and labor, did you have any breakdown for material and labor?

Ans: We did not break down the cost of material and labor, as JICA told they applied the community mobilization program and local people formulated the community group and socio technical support decreased the labor costs. From our experience, the greater portion of the cost of reconstruction is for materials. Labor is much cheaper in Nepal with transportation added of course to material costs.



THEMATIC SESSION I

PRIVATE HOUSING RECONSTRUCTION PROCESS & TECHNOLOGY

Chair: Dr. Chandra B. Shrestha, EC Member, NRA

Moderator: Ms. Pinky Singh Rana

Session Coordinator & Rapporteur: Mr. Shyam Mani Kafle, DPD, NRA

Internal Presentation: Mr. Jhapper Singh Vishokarma – DPD, CLPIU
(Building & Housing)

Background:

Mr. Vishokarma maintained that the objective of the session was to discuss the housing reconstruction and technology which was adopted in Nepal. As an effect of the 2015 earthquake, 498,852 private houses were fully damaged and 256,697 private houses were partially damaged. The estimated damage and loss in housing sector was US\$ 3.27 billion. The major government actors involved in reconstruction were MoUD, DUDBC, Division offices and local governments. Reconstruction was based on Policies, Acts, Regulations, Building Codes, Guidelines, NaPA, Bye laws, Building code under implementation, Training manuals, and an awareness program. By 2021, 615,924 houses had been reconstructed and the retrofitting of 2,230 damaged houses was completed.

Challenges:

The major challenges included the establishment of a strong organizational structure and capacity; formulation of workable policy, process and methods; setting up quality assurance systems and monitoring mechanisms; promoting and transfer of technologies to the affected areas; coordination with large stakeholders; mobilization of technical human resources; ensuring access for all in reconstruction (vulnerable groups etc.) and ensuring code compliance inspection and establishment of transparent the tranche receipt system.

Strategies:

The key strategies followed in the housing reconstruction were the adoption of the principle of 'Build Back Better'; execution of owner driven reconstruction approach, implementation of policies



and guidelines such as design catalogues (2 nos. - 28 types), technical inspection guideline, manuals (7 nos.) etc.; deployment of trained human resources (Masons: 10,997, Engineers: 8,064), providing socio-technical assistance through Social Mobilizers, mobile Masons; introducing a robust monitoring mechanism, engagement of Local Government, disbursement grants from the banking system and adoption of a Management Information System.

Lesson learned:

A responsible authority like NRA is necessary for reconstruction. Transparency and accountability should be maintained; communication and coordination should be effective; trained human resources should be made available, resilient technology should be transferred; documentation of process is important.

Further, a strong evidence-based database is a prerequisite for reconstruction planning, and incentives and motivation are needed to retain technical human resource in reconstruction, and engagement of local government is highly important.

Key Takeaways

1. There is a positive correlation between resilient building construction and tranche allocation with fixed time bound approach
2. Three tranche payment system and inspection and verification of compliance to the safer reconstruction standards by the field engineers at different stages of reconstruction ensured “build back better”
3. Nepal’s Owner-driven reconstruction approach adopted principle of “right of choice” of beneficiaries by providing flexibility in terms of

typology and size of houses according to their need

4. Release of housing grant directly into beneficiary’s bank account promoted accountability and transparency

External Presentation: Mr. Kamran Akbar, World Bank - Earthquake Housing Reconstruction Process and Technology

At the beginning of his presentation, Mr. Akbar informed about the World Bank support in housing reconstruction as: IDA Financing USD 700 million and MDTF USD 34.4 million. Management Information System was key to take the housing reconstruction systematically forward. Emphasis was given on technology transfer in a massive scale; expansive Socio-Technical Assistance (STA) to vulnerable households, third party monitoring of reconstruction progress, monthly implementation reviews for briefing contributing donors, verification of outputs, financial inclusion, and especially women and capacity building were some of the importation steps to take reconstruction in a transparent and inclusive way. Mr. Akbar also noted that damage assessment and enrolment for support should be undertaken simultaneously to save time. He underlined that the efforts towards ensuring financial inclusion for women during reconstruction process should be reinforced. Similarly, focused socio-technical assistance and livelihood recovery efforts should be directed towards most vulnerable groups including persons with disabilities from the onset to ensure no one is left behind. He further emphasized that once soft loan schemes and other financial support methods are introduced, the prudential regulation should be in place. Similarly, once technology is introduced, one has to look into the technology absorption capacity.



It is very important that capacity building programs should be launched from the very beginning to enhance technology absorption capacity. Finally, he expressed his view that community engagement has been varied. JICA, Government of India and other organizations including NGOs/INGOs were there. A more standardised approach could have been more helpful, though what was done was anyway remarkable. Similarly, we could have done more in livelihood and on livelihoods. With regards to the disabilities, specialized training program was given, though too late in reality, to the masons about the assessment of needs of disables, though they struggled initially to fully understand the needs. So preparedness and resilience have to be a political agenda, because at the end of the day development is a political process.

External presentation: Mr. Tomoki Miyano, OCG, EHRP consultant, JICA - JICA funded Emergency Housing Reconstruction Project

Mr. Tomoki Miyano highlighted the critical role of community mobilization during the reconstruction process, while also stressing the need to address retrofitting, promoting access to banks, and addressing beneficiary concerns.

Mr. Miyano explained that the Japan International Cooperation Agency (JICA) has been supporting GON for housing reconstruction through the Emergency Housing Reconstruction Project (EHRP) amounting to JPY 12 billion (equivalent to about NPR 12 billion) as JICA ODA Loan Project. EHRP provided technical assistance for more than 95,000 house owners and provided financial assistance for about 34,000 house owners in Gorkha and Sindhupalchowk. By November 2020, 90 percent of the EHRP supported beneficiaries completed their housing reconstruction.

JICA divided the reconstruction period into 5 phases for project implementation. The first phase was program deliberation phase. JICA started technical assistance in October 2015. JICA provided mason training and house owner training. In 2016, a damage Assessment Survey was done by NRA. The second phase of EHRP was program development phase. At this phase, many Guidelines were prepared among them the Community Based Reconstruction Committee guideline was very important. In this phase guidelines for the training for the inspectors was also prepared.

After the guidelines were in place and the training conducted, JICA thought that a system was necessary to set up for housing construction, but people did not start reconstruction. Then JICA conducted a survey to know why people did not start reconstruction. The survey found the reasons as insufficient financial support, inadequate technical support, lack of masons, expensive building materials, lack of information and also the attitude of the people to “Wait and See” whether the neighbors constructed their house successfully or not. Then JICA disseminated information through CBRC. Community Meetings were conducted. Mobile masons were mobilized to support reconstruction. Even then, not many people did start house reconstruction. JICA continued community mobilization and worked together with Municipalities and Government offices. Results were very positive. EHRP Project was completed in December 2020.

One of the lessons learned from the project is that owner driven reconstruction is very appropriate, but it should be implemented with community mobilization to make it successful. There is a concern among many people about the one-room house.



But the fact is that people went for it because of the limited financial and technical support from the government.

Commentators:

Ms. Luri KC (Facilitation: D. N. Sharma) retrofitting beneficiary

We did not have any land to move to when the earthquake hit us. We had to reconstruct the house. The technical person at first denied reconstructing but after the requested of local elected representative the technical team retrofitted our house. Now it is a safe and strong house. We are happy.

Ms. Nishi Arora, Second Secretary (Reconstruction), Embassy of India tbc.

M.s Arora talked on the Govt funded housing project and shared her experience. India supplemented the GoN efforts by engaging in housing reconstruction. Govt. India pledged USD 150 million to support 50,000 HH in Gorkha and Nuwakot. India followed the owner driven housing reconstruction approach and complied with other GoN policies. Gol was the funding agency, and it did not implement the project directly. India partnered with UNDP and UNOPS. Completed construction of 50,000 HH in collaboration with NRA, UNDP, UNOPS and affected HH. A model house was constructed in Nuwakot. Ownership shown by beneficiaries, helped landless households get land ownership, the engagement of woman in reconstruction process, and technology transfer for the retrofitting of Nepali houses was also undertaken.

Mr. David Mann, Deputy Director, Env. & Resilience Office, USAID

USAID is happy to partner with NRA in the

reconstruction of Nepal. We are concerned about transition of NRA tasks to other government agencies. Whether the outstanding house reconstruction gets the uninterrupted technical and financial support or not after the closure of NRA is an issue. We view that transition should be smooth, and households should get remaining tranches and completion certificates. We have learned a lot. Enforcement of Building code is important. There is a need of structural integrity assessment of all the houses of Nepal, and to conduct programs for strengthening them.

Mr. V. Thiruppugazh, NDMA, India

Nepal has done exceedingly well in the private housing reconstruction process. Reconstruction starts with credible damage assessment, followed by correct classification of houses based on the level of damage. Thirdly, realistic estimation of reconstruction time must be made. We should also make adequate provision for temporary houses for people whose houses have been completely destroyed. As far as policies and approach is concerned for rural areas, ODR is appropriate. NGOs and other Civil Society Organizations should be mobilized to provide additional support to the aged, physically challenged persons and single woman families in rural areas. For urban areas, ODR approach is not possible because of multi-story buildings and huge housing complexes. For urban areas, they can think of encouraging readymade houses. If we do not have technical standards and monitoring, ODR does not work. If you do not dilute the quality of reconstruction, the facilitating entities and monitoring and certifying entities should be different. In urban areas, a single window clearing system for urban reconstruction and assistance should be higher and govt should facilitate access to loans. Solution should look not only be



on construction issues but also on maintenance thereafter. Most of the lessons are identified but not necessarily learned, applied or implemented.

Mr. Surendra Mohan Shrestha, DDG, DUDBC

He explained the role of DUDBC. We believe that by the timeline we will complete all reconstruction works, especially the construction of all private housing. We want to make every building safe and ensure BBB.

Dr. Chandra B. Shrestha, Chair of the session - closing remarks:

We are more or less in consensus in most of the deliberations. Though there was some resistance, the idea of tranches was to ensure the resilience of house reconstruction. One of the impacts of reconstruction is that now we have around one million resilient houses and they have demonstrated an impact on the rest of the houses. Mr. Akbar posed a serious question when saying that resilience is a political

agenda. Do we have, from the political side or people's side, the demand for resilience? The demand for resilience is still weak. We have raised awareness to some extent, but reinforcing is needed. We should have introduced from the very out set policies for supporting vulnerable people for achieving the principle of Leave No One Behind. But we only came with such policies in later phases of reconstruction. We could not do much in case of retrofitting, but we have at least created a knowledge base for future interventions. NRA has published technical documents to guide retrofitting. We also could not do much in the case of urban reconstruction. The caveat is that whilst we had uniform policy and mechanisms, we could apply them. NRA did what it could do. How will this transition be managed? This is the million-dollar question. Mr. Shrestha maintained that the lessons learned should be applied and implemented. We have NDRRMA, but it has to have a set of strong teeth to take on the task ahead. Similarly, there are local governments who will also join hands in this campaign for a resilient Nepal.



Questions and Answers:

Responding to the question on the conservation of traditional buildings, Mr. Vishokarma said government of Nepal already started the retrofitting process. We mobilized district technical teams for retrofitting of traditional buildings. Responding to the question on EHRP reaching the aged persons with disabilities, Mr. Miyano said we did not have a special support program for them, but our approach helped them too.

Responding to the question related to artificial price hikes of construction materials, Mr. Kamran said disasters create supply chain disruption resulting in price hikes – particularly of construction material, which is a natural demand-supply phenomenon (when demand is high, and supply is constant, the price hikes). One of the solutions to tackle price hikes is collective procurement and transportation of construction material.



THEMATIC SESSION 2: HOUSING RECONSTRUCTION (LAND, VULNERABLE GROUPS, AND RESETTLEMENT)

Chair: Mr. Dhruva P. Sharma, EC Member, NRA

Moderator: Dr. Ramesh Guragain

Session Coordinator & Rapporteur: Mr. Deepak Lamichhane, US, NRA

Presenter 1 – Ms. Amanda Duff, FCDO

Background:

Amanda gave a quick overview of UK support. Pathway from unsafe places, to building livelihoods, to becoming more resilient. Focus on durable solutions and geohazard surveys.

Challenges:

Many problems and challenges, including: inequitable land ownership; landlessness; people displaced; risk of landslides being high; finding new land to settle; community decision-making.

Durable solutions:

Durable solutions achieved when displaced persons issues are addressed, including permanent places of living. Some return to place of origin; others take refuge in similar area; final (most complicated) is when resettlement takes place in new areas.

UK Aid support:

Programme started with surveys, to identify most dangerous sites, with different categories. Focus on people most at risk; programme also supported landless people to legally reside in places of origin (Durable Solution). By this time NRA already identified alternative locations to live. Training included financial training for women and new livelihoods. Also looked at 16 integrated settlement sites.

Resettlement:

Real works starts 'after' moving. Good initiatives include joint ownership; pulling all Gov. Departments together for coordination was a challenge, but with good facilitation it worked, e.g., on the spot land registration and documentation. Site planning and detailed reports – makes best use of the site, including facilities and resources. Links to other partners added value, i.e., houses built by one org, another takes care of planning, another water supply etc. Geo-hazard survey mapping is giving detailed risk assessment



of LGs in landslide-affected areas – critical for local governments DRR capacity

Recovery to resilience:

Plan ahead of time – be ready for the next disaster. Land remains a critical issue for Nepal – finding new land will be priority, especially with increased climate change. Citizens also need documentation – to access government support; this in turn helps donor funds to flow. Much needs to be done where people had to move without new livelihoods – help is required into the future. Tensions can be avoided between new and existing communities for resources for livelihoods. DRR and response capacity is still required; NDRRMA has oversight, but responsibility is at LG level. Terrain continues to change, so continuous surveying and assessing is essential. Better ways must be sought to find ways for this.

Video documentary played

Presenter 2 – Bharat Aryal, JS, NRA

Background:

Issues I will address are vulnerable people in hazardous areas, including landless. Scenario from 2015 – 500,000 collapsed, 275,000 damaged. More than 4,000 landslides recorded at the time. People had to be displaced from places of origin. People needed relocating to temporary shelters. 80% of this has been achieved (housing reconstruction); people afraid to return to places of origin due to the disaster. Geological reports showed that 340 locations needed protection. Total 4,700 beneficiaries were deemed to be vulnerable, and of these many come to new locations. Landless beneficiaries are nearly 13,000, most taken care of in original locations. 87 Integrated settlements are both completed and ongoing.

Remaining tasks handed over to DUDBC and MOUD

Challenges:

New processes; land vulnerability; landless beneficiaries; land procurement and registration; land tenancy; informal land; land ownership; coordination amongst multiple diverse stakeholders; lengthy transfer of ownership processes; impacts of Covid-19; accessibility to rugged terrain; beneficiary awareness of rights and issues

Strategies:

Institutional arrangements; formulation of policies, regulations, guidelines (7 especially for land issues), and BBB; Owner-driven reconstruction, Integrated settlement; relocation – land to landless; nobody being left behind

Methods and approaches:

Geo-surveying and classification; improved coordination; easier land registration procedure; Provision of cash land grant to landless; Government and NG partnership; formation of DCC under parliamentarians; no sales or transfer for 10 years, and joint land ownership to husband and wife

Lessons learned:

Autonomous independent system and acts; communication sharing is vital; formulation of procedures should be swift; frequent site visits ensure right path followed; fixed land grants; livelihoods to be part of land processes delegation of authority to key stakeholders, and participatory approaches for relocation

Community led relocation; engagement of CSOs; regular communication and coordination; input



and feedback from grass roots levels; avoid delays in allocation of human resources; enhanced land ownership of women, and relocation of Janajati and Dalits is higher than other castes (95%), residing in more vulnerable areas

Key messages and takeaway:

PDNA and PDRF – remain strong guiding document; Relocation and rehabilitation are success of reconstruction; Reconstruction institutionalised with supporting policies; Apply flexible policies to address diversity; improve longer-term disaster resilience; make LG more responsible; enhance disaster awareness, and enforce land use plan, building code, building permit system and integrated land information system

Commentators:

Tilak Bahadur Sarki, beneficiary from Sindhupalchowk

Mr. Tilak and his neighbours were displaced by earthquake and initially remained in temporary settlements. With the help of Local Government, NRA and local civil society organisation they purchased land in Balphi Palika Ward No.1, Jalbire for residence. For 0.03 hectare they paid NPR. 0.25 million. The government provided grant equivalent to NPR. 0.2 million and they themselves invested NPR. 0.05 million. They constructed their house there, investing an additional NPR. 0.7 to 0.8 million. Now, the value of land has increased 5 times. The skill training provided by NRA helped for their livelihood promotion. There are 19 houses nearby, and they are happy that they were resettled there. However, there is risk of landslide even in this area. People want to live near to their old settlement. China has constructed a high standard school building in Jugal.

After the earthquake, awareness of people to live in safer places has increased. NRA and government helped in the difficult days.

Vivek Rawal

Comments based on past experiences, and the presentations.

Firstly land. Access is inequitable, result of history, of culture and tradition. Vulnerable and women are most affected. Fragmentation of land holdings complicate the situation. Confusion usually exists after disaster – do we address existing gaps or not? BBB is mostly interpreted from technological perspective. Providing financial support of USD 2,000 to landless, is a good policy, and brought focus to the issue. Process of eligibility was complex, with documents, submissions, validation, approvals, agreements, etc. required. Important learning – multiple options are necessary – not just for house construction, but for landless beneficiaries – original, local, or relocation, as well as alternatives. Navigating through processes was time consuming. Process needs to be streamlined for future landless issues.

Secondly, vulnerability, with so many facets, and multiple layers (more than one type). But in this case, criteria were very limited. Result means that many attributes may have been missed. Reducing long term vulnerability will require deeper analysis and support. Need for further reflection on why top up grant did not work affectively, possibly due to differences between local and national levels. But this need not be a post-disaster process – could be continuous and undertaken outside reconstruction processes, as well as vulnerability being an influx aspect.



Thirdly, resettlement. Always an attractive solution for 'Experts'. However, little proof that communities themselves 'want' to move away from their places of origin and livelihoods. Usually a last resort. Why? We need to reflect on this. Making of 'Place' needs further unpacking, with economic and socio-cultural aspects. Relocation usually focuses on the house construction, site safety and access to services. More intangible features of habitat need further efforts of support. 2 types of resettlements: 1) of landless, and 2) integrated settlements (still need to see and learn how families move towards prosperity).

Jagat Basnet

Context:

At the beginning, NRA did not think of landless issue. Took time to be taken up. Land certificate became compulsory, with 20,000 beneficiaries. No guidelines existed. Comments and perspectives were broad. Different acts and guidelines CDO could not work on land issues.

What worked:

Draft guidelines; Choice for the people (govt land, private land, integrated settlements); bilateral organisation – NRA and NGOs; field visits and GMALI engagement; values, joint land certificates, deadlines for geo-surveying; Landless Guidelines amended, with authority given to DRCCs.

Conclusions:

Choice to beneficiaries; flexibility of NRA decisions; Balance of authority; collaboration between different stakeholders; addressing gender and vulnerable groups issues; short time period relocated more than 16,000 beneficiaries, and transparent process for

geological studies and identification and recognition of displaced beneficiaries. 98% of HHs feel safer in their new locations

Challenges:

Finding land; limited budget; livelihoods missing; cultural issues / conflicts; frequent change of NRA staff

Relocation:

Practical models; no conflict no grievances

Q&A:

Question: What is the plan for livelihood recovery of persons displaced to new locations?

Answer: Still facing issues to provide for this support; some work has been done, i.e., women mason training, but there are difficulties, we have not done well, and we have budget constraints

Question: Was anything missing from houses reconstructed in terms of disabled access?

Answer: ramps were put in for many houses, but the durable solutions programme tried to cover this for latrines but done on a case-by-case basis. Important point is how to build, and how to make this standard and economical

Question: Is Nepal really prepared for the landless issue for future disasters?

Answer: geohazard mapping should be continued to ensure this matter is covered; NRA has introduced this, so it should continue (with DUDBC and others)



Chair wrapping up

We have discussed in some depth, land issues and vulnerability and resettlement. We have heard external perspectives, and what NRA have also done in these areas. Thanks also for the documentary presentation. These are all very valuable insights and coverage. From the beneficiary side, I also want to express appreciation to have heard these perspectives shared. The inputs from our commentators were also enlightening and provided us with a huge experience and expertise. We will all take lessons away from this session. Finally, thanks to our physical and virtual participants, including those who provided questions.



THEMATIC SESSION 3: CONSERVATION OF HERITAGE MONUMENTS AND SITES

Chair: Mr. Kishore Thapa, SC Member, NRA

Moderator: Mr. Deepak Raj Joshi

Session Coordinator & Rapporteur: Mr. Kaji Man Pyakurel, AO, DoA

Video Presentation

At the outset a video was presented covering the process on how the heritage monuments like Basantpur Palace, Dharahara, Ranipokhar etc. were reconstructed in consultation with communities and experts. Consultation was held on the design of monuments, construction materials and methodology. Damodar Gautam, Director General, Department of Archeology, GoN said the heritage monuments are national assets of the Nepali people and so Nepali should maintain the originality, authenticity, arts and other aspects.

Presentation 1 - Cultural Heritage Rehabilitation: EXPERIENCES and ACHIEVEMENTS

Suresh Suras SHRESTHA, PhD., HEAD, World Heritage Conservation Section, Department of Archaeology, Nepal

Background:

The presenter gave an overview of destruction of

cultural monuments and heritage sites by Nepal earthquake 2015. He recalled in 31 districts of Nepal 920 cultural heritage sites and 845 monuments and monasteries were damaged. In Kathmandu Valley only 170 cultural heritage sites damaged (33 collapsed & 137 partially damaged). As per PDNA the estimated loss was USD 205 million. Six year later, Government of Nepal was able to rehabilitate 612 monuments.

Challenges and Constraints:

The challenges in rebuilding heritage monuments mainly included lack of consistency in prioritization and planning for rehabilitation; lack of human resources skilled in rebuilding traditional sites; availability of authentic traditional and quality materials; exploring and preparing documentation on cultural heritage; maintaining coordination among stakeholders and authorities, and low budget allocation for rebuilding cultural sites.



Strategies and Approaches:

The strategy of rebuilding cultural monuments included:

1. Guidelines on Rebuilding of Heritage site and Guidelines for Using Lime-surkhi mortar was prepared that highly emphasized for use of non-traditional material in the necessity
2. Principle of 'Back to Traditional Technique and Technology'/'Preserve Authenticity of the site' was streamlined
3. Rigorous coordination mechanisms through NRA's CLPIUs and DLPIUs were followed on with recruitment of technical staff and their necessary orientation
4. Formation of local users committee was emphasized to mark direct engagement of locals in the heritage rebuilding of their territory

Lesson learned and takeaways:

1. Appropriate planning, monitoring processes and mechanisms
2. Coordination and consultation among stakeholders and authority
3. Specific skill set /human resources for reconstruction
4. Traditional knowledge, techniques and material
5. Mobilization of local communities and institutions
6. Capacity building trainings and experience sharing
7. Research for proper rehabilitation
8. Preparation – documentation – without which rehabilitation is not possible
9. understanding of legal tools and customary law

Presentation 2 - Harnessing the role of cultural heritage for sustainable heritage post-disaster recovery

Dr.Rohit Jigyasu, Project Manager, Urban Heritage, Climate Change & Disaster Risk Management, ICCROM

Understanding Heritage Reconstruction:

1. Holistic recovery is the main important aspect to consider during reconstruction of cultural heritage
2. Prioritisation for recovery should be based on consensus reached considering multiple perceptions and perspectives of values
3. Not just recovery of important temples and historic temples but more significant are the smaller shrines and community buildings that have high importance for local communities
4. Engaging local craftsmen and renewing/upgrading their skills
5. Investigation and analysis of traditional materials and technology is important
6. Ensuring affordability of traditional materials and craftsmen besides measures to reduce vulnerability

Building Back Better:

Recovery process for cultural heritage should consider building back better by reducing physical, social, economic and institutional vulnerability to multiple natural and human induced hazards to which the place is exposed, while retaining heritage values to the best possible extent. This would require reassessment of values and vulnerability and a balanced decision that optimizes safety with minimal loss of values. Effective recovery shall necessitate



engagement/coordination among all stakeholders and actors from heritage, urban development, DRR, crisis management and recovery sectors.

Key Considerations:

1. Holistic Recovery: Mainstreaming the tangible and intangible heritage belonging to various sections of the community in the overall recovery process
2. Sustainable Recovery: Ensuring that recovery process is social, economically and institutionally sustainable and does not create dependencies on external actors in the long run
3. Resilient Recovery: Enabling heritage as means of reducing vulnerability, building peace and reconciliation, and enhancing coping capacity following the concept of 'building back better'

Key remarks by the commentators

Dr. Lochan Rijal, Ethnomusicologist, Kathmandu University

Mr. Rijal informed that Tripureshwor Mahadev Temple is being restored as a tangible heritage site with mainly two objectives: i) to revitalize the intangible aspect of heritage such as music, festivals, rituals etc, and ii) to build ethnographic aspect of heritage monuments and to transmit to the future generations through documentation.

A general challenge faced by the entire country is the transformation of knowledge from heritage sites. Building heritage infrastructure is not enough, we need to rehabilitate intangible heritage. We need to create a heritage knowledge hub, which can be transferred to future generations.

Ms. Fang Weijia, Embassy of the Peoples Republic of China

Chinese Academy of Chinese Heritage has supported to rebuild the monument in Basantapur. Three points are to be focused on here:

1. Combining technology with experiences to collect data of traditional and advance technical information at the planning stage. Similarly, weather pattern of Nepal should be considered while rebuilding.
2. Adopting safety measures of the premises of all of the work including protection for architecture from rain erosion.
3. Maintaining the historical information, experiences and knowledge to best extent.

Mr. Michael Croft, UNESCO

In disaster response, cultural consideration is integrated. Our culture gives a sense of connection and gives security for the existence of traditions. Role of local community in the response is very important. In Nepal, local communities have relation with their cultural heritage. This has been an active part of their culture and daily life. Investing in intangible heritage is very important. Local communities are last defenders of their traditions. Local communities are the last defenders of heritage. He recalled an expression of a young girl saying, " My culture is my identity as much as my name is", and that says a lot. Working for sustainable tourism in heritage sites of Kathmandu valley is worth welcoming in which continuation of intangible heritage should play a primary role.



Ms. Paromita De Sarkar – INTACH, Embassy of India in Nepal

Cultural heritage is one of the most challenging sectors to work in. Government of India funding is being invested in rebuilding and recovery of many monuments in Nepal. Indian National Trust for the Cultural Heritage Archeology (INTACH) looks after unprotected heritage monuments. Still there is lots to learn from Nepal's experience. CLPIU and NRA has built a very good platform to come together and interact over lots of site issues that primarily involve communities. Understanding the local communities' aspects is a crucial part of success of any project. In the process we should not only involve them in dialogue but also should involve them hand to hand in the project and process. The communities also want to have their say and INTACH has best tried to address the aspirations of communities.

Mr. Dhruba Shah, US Embassy of Nepal

For past two decades, US has actively supported preservation of Nepal's cultural heritage and reinforcing conservation, through the US Government Ambassador Fund for restoration of many cultural monuments of Nepal. These projects have provided ways forward for better protection of cultural heritages of Nepal. USD 1.8 million has been provided to rebuild 8 different monuments, where the BBB model was applied in order to assure its resilience for a long-standing future. Careful planning is at the core of the project implementation, and it took nine months in total to restore Gaddhi Baithak in Hanuman Dhoka. Community outreach and engagement is another major part of the heritage conservation support. More artisans are needed to restore the monuments in traditionally authentic ways.

Mr. Kanak Mani Dixit, KVPT

Leadership and staff of NRA were very enthusiastic for heritage conservation. The support provided by major donor countries has been remarkable. When intangible heritage was damaged or destroyed by the earthquake, we lost many aspects of Jatra, rituals, etc. Due credit should be given to involving local communities who keep on continuing supporting to get moving on their intangible heritage. Communities and their aspirations are a special essence attached to the heritage of Nepal. Tendency to destroy the age-old traditional heritages has been in practice for the cause of traffic safety etc and for money making purpose too. These old heritage sites have to be restored with their cultural authenticity and conservation too. Incompatibility of procurement rules of Nepal has to be revisited in terms of implementing projects on heritage rebuilding. Hundreds of spaces also need restoration besides Durbar Squares and major temples. The traditional ancient vernacular architecture has to be restored and promoted in order to see the heritage loss. Local governments should be made ready to tackle future disasters.

Suggestion from participants

Mr. Surya Bhakta Sangachhen

Ancient monuments and heritage settlements have to be jointly restored, recovered and should be kept in close planning priority with the heritage conservation by DoA, DUDBC and other stakeholders concerned. Therefore, a holistic approach is needed in order to restore authentic and ethnic architecture throughout the country.



Concluding remarks by Chair of the Session, Mr. Kishor Thapa

Nepal is a living culture. Tangible and intangible heritage go together and should be restored jointly. The 2015 earthquake damaged cultural heritage, and with this we lost much intangible heritage. Cooperation by international partners is worth praising. Government of China and Government of India were generous to support in the areas of heritage from the very beginning of reconstruction. Local people's sentiments were reflected in the construction process of Ranipokhari and other monuments and their reaction over the contract

management were seen clearly. Alternative methods of procurements were suggested to Government and local communities' committees were involved directly in heritage rebuilding. The Department of Archeology of Government of Nepal was not very confident in early phases, but at later stages it developed its capacity when it acted as the project implementation unit. Archeologists, engineers and communities worked together in bringing up and applying innovative technology and practices. Many craftsmen were trained in this process. These experience and skill sets will be very useful in the future.



ROUND TABLE DISCUSSION I: NEPAL'S RECONSTRUCTION AND RECOVERY FROM THE INTERNATIONAL PERSPECTIVE

Ms. Maggie Stephenson: Chair

Theme 1: Yubaraj Poudel (Rapporteur)

Panellist CEO: Sushil Gyewali

Mr. Kamal Kishor from India

In her opening remarks Maggie Stephenson recalled her visit to Nepal in 2015 and expressed happiness to see current recovery. She recalled Nepal's contribution to the rebuilding of post-earthquake reconstruction of Kashmir, Pakistan, Gujarat India and Japan. She shared her experience and said, "DISASTERS ARE DIFFERENT AS EVERY CONTEXT IS DIFFERENT". Learning and sharing is important to deal with future disasters. Nepal now has good foundations, with excellent building codes and policies.

1. Nepal planned well. Nepal started reconstruction with PDNA and PDRF.
2. Despite challenges and constraints, Nepal followed through reconstruction plan.
3. Nepal documented well. Nepal recorded process, captured experience and knowledge, which will be valuable for future institution.

Still Nepal is facing three new issues:

1. First is transition. Institutionalising policies and learnings and utilizing skill and knowledge.
2. Second is urban. Urban recovery is complex and urban recovery is difficult and time taking. Urban damages are severe. How urban generation will evolve in Nepal? Can you build on your foundation of urban knowledge?
3. Third is time. If you want to learn about the impact of policies and reconstruction, you have to track longer. Impact on migration, indebtedness, land sale may reveal only in medium and long term

Presentation by Surya Narayan Shrestha (Executive Chairman, NSET)

Title of Presentation "Nepal's Reconstruction and Recovery and International Perspectives"



Regional comparison:

Mr. Shrestha through his presentation tried to capture and compare some of the lessons from Nepal, Gujarat, and Pakistan earthquakes.

1. Death/ injury was less in Nepal but physical infrastructure damage was high in comparison to Gujarat and Pakistan earthquake.
2. During the initial time, Gujarat did very well in reconstruction. In two weeks' time, Gujarat Reconstruction Authority was established.
3. In Pakistan reconstruction was 9% in first year but reached 65% in second year. In Gujarat in the second year the reconstruction was already 90 percent. In Nepal in the first-year housing reconstruction was almost zero.
4. In five years, in Gujarat and Pakistan progress was over 90 percent. In Nepal too at the end of six years the process is over 85 percent.
5. Nepal has invested a lot (Investment per capita of Nepal is 81 dollar), India and Pakistan invested less.

Lessons learned:

Regional experience of earthquake reconstruction helped to prepare Nepal. Nepal had Building code implementation and other ERM efforts; Functional cluster system; Training approaches and systems and Building vulnerability and damage assessment guidelines prior to the 2015 Earthquake. Nepal had a n opportunity to participate in a number of regional exchange program, which strengthened profession link with other regional countries. Experts from India, Pakistan and other countries came to Nepal after 2015 earthquake to help.

Lessons from reconstruction of Gujarat, Kashmir and many other urban areas demonstrate that “Urban Recovery” is a slow process – Need a long-term planning, increased technical capacity at local levels

Way forward:

Continue the best approaches of recovery such as damage-based support systems; Build Back Better; Owner driven vs. other mechanisms; grant disbursement mechanisms and banking system, enhancing the role and capacity of local governments. There is a need to sustain the mechanism of safer building practices, such as:

- Building permits linked with building code compliance
- Training and technical assistance at local levels
- Inspection and compliance system

Panellist Roger Sutton - New Zealand

- Bring experienced team from anywhere for reconstruction
- Local relationship building is important for reconstruction
- bring people from existing institutions
- Public facilities were built with principle of BBB
- It is difficult to convince political leaders

India: Kamal Kishor, NDMA, Panellist

Mr. Kamal Kishor shared key takeaways what we have seen from Nepal

1. Owner driven reconstruction is one of the best ways of managing reconstruction but cannot be



- applied dogmatically: it needs to be applied in the local context
2. Reconstruction in Bhuj is not as complex as Nepal because of difficult geographical terrain. We need to document how we can build in future
 3. Despite some initial hiccups with NRA, they systematically coordinated with national and international partners
 4. Nepal reconstruction is the most inclusive program in history. Female masons were trained. Earthquake resilient houses were built by women that have not been able to build in India. Nepal is making reconstruction possible for women
 5. Finally, the NRA model of NRA has worked very well and hope that there is a smooth transition happened from NRA to NDRRMA. While we do prepare for response there is need for preparedness for recovery
- Panellist Ronald Jackson, Team Leader, Crisis Bureau at UNDP**
- Recovery is an inclusive set of intervention where there is need of inclusion.
 - Most vulnerable populations, landless, are often left behind if they are not provided special assistance.
 - Government has introduced new housing technology but also should keep traditional design intact.
 - Risk analytics, climate crises continue to challenge us.
 - Commit to take forward Nepal's reconstruction experience and learning globally
 - Need to publish owner driven housing experience
- Sushil Gyewali
 - Reconstruction activity needs to be planned properly. Detailed damage assessment is a framework to guide us in the future
 - Inclusive recovery is important. People who were in difficult situations were encouraged to build houses. Providing them with special assistance, engagement with the community, and incentive mechanisms were beneficial
 - Need to have consensus building or trust building. In our region, we need to show transparency in the government system. We did utilize this as the banking system was optimised. People were receiving the money at grassroot level
 - Address the issue of landslides. We consult with three levels of governments. We can learn and adopt those policies
 - Another lesson is that people have scattered, and integrated settlement was necessary. It is not only the integrated settlement: they were given chances to build houses individually or in an integrated way
 - Political consensus at different levels is essential. In the context of an unstable political government, the apex structure advisory council worked extremely well under the PM who was chairing the committee, with the opposing party as the advisor, and the former prime minister as the members
 - Development assistance coordination committee was made and also mentioned in the policy
 - Owner driven housing model is a successful model that can be adopted in any country



Closing the session by Chair

The chair said that what helps with improvement is acknowledging the shortcomings. Leadership should be open and open minded. They should be listening to all but should be able to take firm decisions. There should be flexibility and continuity. Develop plans, discuss plans, and maintain transparency in spending money. It is really difficult to manage a huge disaster for and in a resource poor country like Nepal. Exchange of experts should not only be internationally but also nationally. Experience should be shared with communities. Urban recovery is complex and so this needs to be initiated with full preparedness.



SCIENTIFIC PAPER PRESENTATION SESSION 2: TECHNO-FINANCIAL ASSISTANCE

Chair/Moderator: Prof. Dr. Tara Nidhi Bhattarai, SC Member, NRA

Session Coordinator & Official Rapporteur: Mr. Surat Sunar, Engineer, NRA

1st Paper: Reconstruction assistance in rural Nepal after the 2015 Gorkha Nepal earthquake through Aarma Parmah approach - A case study in Bijulikot, Ramechhap District – by Devraj Gautam et al

Background:

This study was conducted in Bijulikot VDC of Ramechhap district. The reconstruction project was implemented by a Swiss NGO Medair. The reconstruction of 1,300 houses was done using the Aarma Parmah system. Aarma Parmah is a traditional labor exchange method mainly used in Agriculture. This system was applied in housing reconstruction. The objective of the research was to see the impact of Aarma Parmah system on household construction, social bonding, community relations and cost saving.

Methodology:

The study applied both quantitative and qualitative methods using both primary and secondary sources of information. On secondary sources, they reviewed relevant literature and project reports. Primary information was collected through surveying 128

cluster members, Focus group Discussions and Key Informant Interviews and field observation of project areas. Out of 1,300 households in the project areas, 128 clusters were formed.

Findings:

1. 63.9% cluster members used Aarma Parmah system in materials transportation, 55.6% members in reconstruction of houses, 41.7% members in demolition of houses.
2. Out of total cluster members 19 % supported vulnerable households. Out of those who supported vulnerable, and 71.4% supported in materials transportation, and 28.6% supported in providing skill mason from cluster.
3. Working through Aarma Parmah 33.3% members improved their relation with neighbors significantly, 27.8% - slightly improved, and 38.9% - same as before).
4. About 88 % members rate high the social and cultural bonding.
5. Aarma Parmah system contributed financial



saving as much as USD 900 on average per construction one houses. This system helped to save on average USD 266 in demolition of house, USD 530 on labor cost and USD 96 in construction material transportation.

Conclusions:

1. Aarma Parmah system is a tool for transferring knowledge (fast and effective) and for conducting community level activities.
2. It is instrumental in ensuring that most vulnerable people (the elderly and those with disabilities) houses were also reconstructed.
3. It enhances Communal harmony and social cohesion.
4. DRR practitioners and researchers should further investigate Aarma Parmah system.
5. Greater efforts needed from policy level to save, document and apply these kinds of traditional approaches.

2nd Paper: An analysis of use and effectiveness of communication channels, media and tools in post-earthquake private housing reconstruction in Nepal – by Ram Krishna Sharma et al

Background:

Communication initiatives promote safer reconstruction. Understanding the effectiveness of these initiatives in reconstruction is crucial for developing better strategies in the future. The research objectives were to study the range of communication initiatives, approaches and media, and to evaluate the impact of communication initiatives on the reconstruction process.

Methodology:

The study follows qualitative and quantitative methods. Primary data was collected through telephone interviews or internet surveys. Convenience Random Sampling method used. Three target groups (beneficiaries, implementation level authorities and policy level authorities) of 274 NRA reconstruction beneficiaries from earthquake affected districts; 70 implementation level personnel (engineers, social mobilizers and local authorities) and 6 policy level authorities and partners at national level were surveyed.

Findings:

1. Effective communication and speedy information sharing enables people to build faster.
2. Local radio, local elected representatives, NGO and government officials were the major sources of information for beneficiaries. Choice of medium varied according to the level of beneficiary education.
3. Localized information development and dissemination is very effective; Local authorities must be prioritized in communication initiatives as they have a huge role to play in informing beneficiaries.
4. Local representatives, government and NGOs have not been equipped with uniform information.
5. Half of the beneficiaries received the information of reconstruction policy, yet contrarily government officials disagreed that the information was delivered well.
6. One door policy for information production and sharing is recommended for reconstruction.



3rd Paper: Communicating to reduce disaster risk through radio in Nepal: A case study of Milijuli Nepali and Kathamaala – by Sanjib Saha et al

Background:

Milijuli Nepali began as a Lifeline Radio Programme in May 2015. It converted into Reconstruction Radio programme in June 2016. BBC Media Action worked with 11 partner radio stations. The programmes used real life stories, drama and interviews and discussions with experts related to reconstruction. The Project ended December 2018. The project had 4 objectives: 1) To measure increased knowledge and understanding; 2) To identify and understand how programmes prompted people to discuss issues and take action; 3) To measure the outreach and engagement of the radio programme; and 4) To understand media consumption.

Methodology:

Total sample: 2,636 persons representing 14 districts with randomly selected municipalities, households & respondents. Sample took consideration of age, gender and urban/rural proportion. There were 400 booster samples i.e., purposively selected respondents who are listeners to either Milijuli Nepali or KathaMaala.

Findings and recommendations:

1. About 21% listen to Nepali local FM radio which is trusted by the local people. The radio program is trustable and influential since it was aired in local languages as well.
2. It is interesting to note that 62% responders among the regular FM radio reconstruction program listeners recognized the building safety

component and were motivated to rebuild their houses safer and better.

3. In summary the FM radio listeners trusted the information through local radios and motivated to build resilient houses. In future for changing behavior of the beneficiaries, radio programs are a source of awareness even in any complex scientific information dissemination.
4. It is recommended to expand outreach activities along with interactive, informative and engaging media interventions.
5. There is a need to Develop programmes on livelihood and access to finance.

4th Paper: Inclusion of the poor and vulnerable: Learning from post-earthquake housing reconstruction in Nepal – by Vivek Rawal et al

Background:

Nepal's housing reconstruction is the largest Owner Driven Housing Reconstruction globally in terms of the number of houses reconstructed. NRA devised many guidelines, policies and procedures, and implementation mechanisms for inclusive and resilient recovery. The Constitution of Nepal substantively devolved power to local government. 80 percent of Nepal is vulnerable to natural disaster. According to latest survey, there 13.6 % Dalits, 36 % Janjatis, and 25.7 % Female-headed HHs. Almost the same proportion of population is landless. Vulnerable people have low capacity to reconstruct. Therefore, research on vulnerability is important for Nepal. The research question is to study the effectiveness and challenges of policies and implementation.



Methodology:

Primary data was generated from surveying 26,912 households 6 times during 2.5 years in 6 rural, and 2 urban municipalities of Gorkha districts by using mobile based software. There were community meetings. On secondary information, NRA and CBS data were used and literature were reviewed. Data analysis was carried out within an issues framework: financial assistance, land, technology & socio-technical facilitation were evaluated.

Findings:

1. Vulnerable houseowners took longer to complete reconstruction
2. Gap in funds – subsidized loans limited, informal loans
3. Innovative solutions: Revolving Fund (inspired by dhukuti)
4. Homestead Land - Unprecedented & Effective
5. Typology change and increased costs

Conclusions and recommendations:

1. Vulnerable groups are far behind on reconstruction progress; social technical assistance fill the gap; incorporation of social technical assistant is essential for the poor.
2. Inspired by the Dhukuti system some local authority establishes the revolving fund which seem to have a potential to scale up.
3. Knowledge domain was changed from masons to the engineers and the adobe building was changed to cement-based construction.
4. Changes of housing typology may raise the resilience but may not incorporate the future facilities for the poor.

5. Homestead land for the landless – Effective security of tenure.
6. Financial assistance and instruments need to be improved for the vulnerable.
7. Design process changed, artisanal practices to engineer's domain.
8. Policies are effective when people-friendly mechanisms instituted.

5th Paper: Can Post-earthquake Housing Survey Contribute to the Resilient Housing Construction in Nepal? – by Chandra Bahadur Shrestha et al

Background:

In 2015 earthquake there was loss of USD 7.6 billion of which 61 % loss) USD 4077 million was in private housing sector. Government of Nepal and the World Bank went for an owner driven house reconstruction, Hazard resistant construction, and Household Damages and Characteristics (EHDC) Survey. In this context the research objective was to a) examine EHDC Survey, b) collate EHDC Survey with other similar countries, and c) establish link between EHDC and municipal planning.

Methodology:

1. Descriptive Study Method
2. Literature Review – Nepal's previous reconstruction interventions, and other countries experience: China, New Zealand, India and Pakistan
3. Consultation with Key Personal
4. Focused Group discussion with authorities of Rural Municipalities and Municipalities

Results:

1. Pre-Survey by District Disaster Reduction



Committee (DDRC). This survey was not exhaustive.

2. Institutional set up for EHDC was unique and not conducive. It was led by NPC but owned by MOFL then Handled by MoUD.
3. Survey conducted in three phases: Census in 11 districts, Mixed – 3 districts, Verification (selective) model – 18 districts (Total surveyed households: 1,036,568; Beneficiaries: 751,729). In survey methodology were caveats.
4. Grievance handling – 635,973 cases. What was wrong with EHDC?
5. Practice of beneficiary survey in Nepal and other countries are different.

Discussions and conclusions:

1. Lack of clarity in survey ownership. This was the fundamental issue.
2. Inappropriate agencies for implementing beneficiary survey. CBS was not conducting such survey.
3. Weaknesses of survey questionnaire. Questionnaire was very much elaborative required huge number of resources. All information not used.
4. Post disaster comprehensive survey was inappropriate.
5. Possibility of linking survey to Municipal planning.
6. Instrumental for disaster resilient housing stock.
7. Contributes to effective services including relief operation.

8. Important to reflect the conclusion of damage survey in local authority planning purpose.

9. However, it has provided basis for moving ahead.

Q & A session:

1) Artesian based construction changing to engineer based construction, what were the consequences?

Answer: Quality of artesian skills was very amazing which was demonstrated in many heritage sites. The critical issue is the engineering colleges curriculum does not explore more on traditional construction material, which is a gap. To start with, the intervention on engineering student's curriculum will be a starting point. The provision of MRT is good, but how it can be increased needs to be clear.

2) Home state land size, did you make this considering the area or not?

Answer: Reconstruction policy did not mention the size of houses and a large number of small houses were built. Size of the land was considered in the policy framework, but not that needed to be checked. However, inclusion of any landless beneficiaries receiving NPR. 200,000 is unique.

3) Rural communication practice is considered or not?

Answer: Not investigated, but what was noticed that the interpersonal communication was happening, and this is considered as a traditional way of communication.



4) Conflicting information happened; what was the very worst consequence could you please mention?

Answer: progress on construction rate is highly dependent on the information. For example, the confusion and different opinions on height limitations of the building is the worst case for the homeowner.

5) Data was constantly changing about 2015 earthquake which is serious. How does this compare to the 1948 earthquake?

Answer: Might be due to capacity of local government. The data of 1948 earthquake was not changed. There are a few issues on questionnaires to incorporate the engineer's inspection description. The fresh engineers had less exposure about the damage scenario and its importance. The whole system blindly trusts the engineers or depend on engineer's survey.

6) Post disaster comprehensive survey was inappropriate, why?

Answer: Firstly, conclusion of damage assessment was not based on the damage features. Secondly, lots of socio-economic data being collected but not used is not appropriate.

7) BBC media, your result is based on Nepali language or in other language as well?

Answer: Local languages were also being used and included.

8) New construction materials are being utilized for which local people don't know its use. What will be the impact on Aarma Parma in your opinion?

Answer: This is uncertain, but needs to be reviewed, certainly.



THEMATIC SESSION 4 - RECONSTRUCTION OF PUBLIC BUILDING & INFRASTRUCTURE

Chair: Dr. Hariram Parajuli, EC Member, NRA

Moderator: Ms. Pinky Singh Rana

Session Coordinator & Rapporteur: Mr. Bipin Gautam, CLPIU (Building & Housing)

Session focuses on public infrastructure, schools, health centres, government buildings, security buildings, roads, water supply systems, bridges and so on. We will look at the lessons from all 32 districts, and how we can address them in the other districts of our country.

Presenter 1 - Dr Youb Raj Paudyal – DPD, CLPIU (Education)

Background:

Earthquake was on a Saturday, so casualties in schools were low. Nearly 8,000 schools damaged. Many achievements reached, and still ongoing. Completed around 6700 schools – 88% completed.

Challenges:

No institutional memory; no local authorities, poor coordination; no legal framework; damage assessment problematic; low resources – manpower, financial materials; diverse geography, scope and

scale of the disaster; technical designs and quality assurance

Strategies:

PDNA and PDRF; Establishment of special purpose instruments and vehicles; new policies and modalities; new principles, new arrangements, and use of national international and local capacities and human resources

Lessons learned:

Clear allocation of authority and responsibility for decision making; development of policy and plans; identification and resource planning; transparency and accountability mechanisms; communication and coordination mechanisms among stakeholders; need based infrastructure; School Management Committees; Web-based platforms used; capacities of engineers, masons developed; disaster sensitive designs; quality of education enhanced with child,



environment, and gender friendly schools

Key messages and takeaways:

Political consensus; strong leadership; harmonised and holistic planning; resilient and affordable and replicable designs; proto-type school designs do not always fulfil local conditions; availability of land; promotion of local technology; retrofitting as a good approach; quality enhancement through capacity building; and community participation

Presenter 2 - Mr. Lila Khatiwada – DPD, CLPIU (Building & Housing)

Background:

Focus – government buildings and integrated settlements; damage and losses – 2,656 government buildings destroyed, and 3,622 partially damaged. Till date we reconstructed 645 government buildings, and 35% still ongoing.

Challenges:

Organisational, structures; policies and processes; standard methods and confidence; revision of codes; code compliance; materials, geography, human resources, and quality control; Retrofitting of heritage buildings - availability of tested technology; material selection and acceptability, and implementation capacity; Integrated settlements – non willingness of beneficiaries; livelihoods lacking, and geography

Strategies:

BBB; revision of guidelines, procurement, environmental assessments, deployment of trained personnel, application of current approaches in design, quality control and assurance, and

participatory approaches

Methods:

Data collection; uniformity and simplicity in planning; public procurement as well as participatory and timebound approach; quality control and assurance; decentralised approach; detailed damage assessment and seismic vulnerability assessment; tests undertaken; retrofitting principles; and design principles, and as well as retrofitting material (archaeology acceptable)

Lessons learned:

Participatory approach is valuable; cost optimisation and document essential; provision of operation and maintenance fund; knowledge and capacity of technical HR; connect new settlements with livelihoods; adapt new methods and materials for old structures. Best practices to be reflected in other areas

Key messages and takeaways:

BBB with current scenario; make processes competitive, transparency and participatory; ensure uniformity; preserve important and old palaces; ensure proper documentation and handover

Presenter 3 - Mr. Narayan Prasad Shrestha, PD, CLPIU (GMALI)

Background:

Focus local roads, bridges and WASH; estimated damage of local roads and bridges – 124 million USD; reconstruction cost 190 million USD; 1142 roads to rehabilitate. 34 roads completed, 9 bridges; 8 and 6 ongoing respectively; 5500,000 citizens



have access; 5.5 million workdays provided. In WASH – 111 million USD damage, with 118 million USD reconstruction costs; 3,212 water supply schemes to be reconstruction. 853 completed and 524 ongoing.

Challenges:

No local authorities – political transition; no institutional arrangements; DPR preparation for projects; land acquisition; coordination between stakeholders; supply of construction materials and equipment under difficult conditions; tree cutting; resettlement; quality assurance; investments; poor performance of nonprofessional contractors; COVID-19

Strategies:

Separate empowered NRA; formulation of acts and policies; multi-stakeholder engagement; coordination mechanisms; BBB

Methods:

HRM capacity development; engagement of line agencies; local resource utilisation; decentralisation; DCC; implementation through contracting and outsourcing; regular monitoring; awareness campaigns

Lessons learned:

Delegation of authority; emphasis on planning; transparency; communication, efficient resource mobilisation; effective institutional set up; training and recruitment; adaptation; contract management; environmental safeguards; land acquisition/deed transfer; quality assurance.

Key messages and takeaways:

Updated database; organisation and management; timely formulation of regulations; smooth coordination; and technology transfer to local people; resource mobilisation; contract management; planning M&E; social mobilisation and proper documentation

Presenter 4 - Mr. Naresh Giri, ADB

Background:

Focus – what worked well and did not work well; rapid response; 200 million USD loan; USAID grant; SDC TA; ADB TA; Executed by NA

Main achievements:

162 schools; 400 kms roads; 162 government buildings; type designs do schools; school DRM plans; PMIS; monitoring hub

Lessons learned:

Getting children back to classrooms, but not at expense of safety and quality; selection of schools needed improving; what worked well – trying for lightweight structure (but not familiar in Nepal); Facilitation by NRA worked well – own guidelines, CLPIUs, guidelines, PDNA and PDRF; DACFC; dealing with mainstreaming government processes; staff ‘crunch’ at the outset;

Continued implementation:

Major national events (political); new constitutions and elections; nation-wide fuel crisis

Minimising frequent turnover:

4 Changes of CEO; needed strong leadership, but



regularly changed; alongside other leadership staff

Masons training:

Missed opportunity to train 10,000 trained masons;
162 schools – only 162 masons trained

Monitoring hub:

Daily updates; contractor HR tracking; dealing with delays in real time – meetings at sites

Use of PMIS:

Progress, quality, safeguards tracked regularly

School Management Committees:

Balance between consultation and construction;
monitoring guidelines; MOU between SMC and EA

Isolation of Department roads:

All sectors kept under NRA but dept left alone; DOR was weakest agency; Need equal attention to all sectors (Private housing took front and centre of NRA); lower sectors needed support too

BBB:

Must be reviewed; especially for roads; widening roads made problems, compensation etc.

Job completed?

Not when construction is done – there is so much more

Evidence based school type designs:

Evidence – structural design calculations for school types – semi dressed SSM; no initiation to pilot such in schools

Revision of Nepal's building Code:

Revisions 105; all other codes revised, and capacity development activities imparted

EEAP School lessons:

Database; standard designs; water supply and added value of demonstration potential for LG

Roadmap:

NDRRMA – under MoHA which does not have longer-term mandate? Will lessons from NRA be effective if NDRRMA has no mandate for reconstruction?

Commentators:

Mr. Heramba Raj Kadel, Head Teacher, Vishwo Niketan S.S. (Facilitation: Dr. Youb Raj Paudyal)

Firstly, I want to congratulate presenters. My school crumbled in 2015. DLPIU and CLPIU met with us and they supported with not just new building, but new furniture and equipment, DRR training. This encouraged us – now students up from 3,200 to 3,700. Reconstruction completed in good time. Positive message spread. Thank you all.

Ms. Tenzin Chokteng – USAID

Very informative presentations. We (USAID) echo the lessons learned. USAID reconstructed 36 infrastructure facilities. Happy to say that 32 complete and 4 remaining to be completed soon. Many of these schools are remote as priority. In addition to physical constructions, we held workshops and found gap in material supply and repair and maintenance, so local private sector grants for APP for material support and App FIXIT for maintenance. Less traditional but of value. Reemphasise, as we complete reconstruction, O&M is a big concern, for communities to take care of facilities handed over. We realise preventative maintenance is not really considered and this should be advocated for. We also want to follow up on the



outcomes of this conference, and action plans to support. Working together in partnerships and friendships are very valuable, so want to build on these.

Mr. Mark Waltham, Chief of Education, UNICEF

Congratulations to NRA and presenters. UNICEF focus is children's rights. Focus post-earthquake – re-establishing education. Mitigation short- and long-term harm to this. 1 million children's education disrupted. 3 phases: 1) temporary learning centres for 250,000 students; 2) transitional learning structures (11,000 students); 3) 300,000 students supported; 1,000 schools for handwashing and latrines; trained psychosocial support, and then also DRR; supported Min. Ed for comprehensive school safety guidelines.

Phased approaches, worked well: fast, then longer-term, then DRR

Managed to maximise opportunity to BBB – additional facilities – WASH etc, so better schools at the end of the day. Also valid for Covid-19.

Prof. Dr. Rajesh Dhakal, UOC, New Zealand

Nepal's next disaster is not a matter of 'if' but 'when'. The archive we have accumulated will provide well for the future. What worked well and did not work well is equally important. To summarise: numerous challenges when the earthquake hit; scale of need, and to restore the country was a daunting task. No pre-existing local or regional authorities; type of reconstruction and building, no documentation (policies, guidelines, regulations, building code, etc.); shortage of resources (financial, human technical know-how etc., experts); topographical challenges

and access, transport, remoteness, old buildings and heritage with just need to preserve, not necessarily to reconstruct. New Zealand is still ongoing, so there is still a long way to go. Transfer of knowledge and technology is still needed, and this may well go slower. The pandemic will also impact on the ongoing processes.

I notice a few key features in Nepal as compared to other countries; NRA had to identify need, assess need, and develop procedures from scratch 'Before' reconstruction could start. Not only did we rebuild infrastructure, but also capacities. Empowerment of the victims gives them something to be proud of. LNOB, use of national resources are two other positives. There are so many things to be proud of – so many unique things we have done. We can look back and be satisfied. Earthquakes are always painful in terms of losses. But they also provide us opportunities for research and learning, that can help the whole country that face similar situations. We have to take these opportunities, for our next generation.

Mr. Krishna Lamsal, JICA

Appreciated all presentations. I wish to supplement based on JICA's experiences with schools. Challenges: lack of data, and manuals for reconstruction (seismic standards); but also, all other aspects socio, cultural, etc.); BBB concept must take on board all six aspects and when building capacities of stakeholders; combination of hard and software is essential; surveys and assessments provide learning opportunity. Learning by doing is also something that works. Improving performance of contractors is something that has to be considered; quick impact projects also contributed to the process, addressing



urgent needs. For strategies: holistic approach and plan is very important; BBB consent must be further enhanced; key messages: facilitation support to local level and O&M is really important; additional focus on health and safety – that needs to go hand in hand with reconstruction, especially in light of Covid-19; harmonization needs to go with other activities in the education sector, and dissemination of new ideas. Last point for whole of school approach, consideration of gender, disabilities etc. to build inclusive schools inclusively. These things should be considered in future.

Q&A

Question: what challenges faced for quality of construction?

Answer: failure in structures; particularly bridges; lack of professional contractors, and of low quality;

Question: time and cost overrun – how did you manage?

Answer: contract management – after signing contract, contractors get 10% after signing contract and 10% after starting implementation; so they don't start work actually, then there are delays; contractors are late for many years, with roads given as example; we have to make contract management using work schedules, and to be more professional

Question: what were key steps for efficient contract management taken?

Answer: step 1 – mobilise experiences manpower and material; step 2 is mobilisation of activities and focus on result

Closing remarks from Chair

Key issues and decisions that made progress, e.g., more than 7,000 schools were built, implemented through SMCs and used empowerment as an approach. Other achievements are in all public facilities that give service and will now give future and bigger services. We have now assured the safety of our future infrastructure. Additionally, establishment of special organisations, like NRA, can deliver better results than standard line agencies. Finally, the main point that we have learned from six years is that we developed the required guidelines and procedures, and we carried out the right assessments at the outset, and because we did all that at the beginning, even if busy, it meant that afterwards things went smoothly. Building capacity and empowering local service providers and users, made the progress a positive one.



THEMATIC SESSION 5: GOVERNANCE AND FINANCIAL FRAMEWORK

Chair: Mr. Shanker Das Bairagi, Chief Secretary, GoN

Moderator: Mr. Deepak Raj Joshi

Session Coordinator & Rapporteur: Ms. Nita Sharma, US, NRA

Video Presentation

A short video was played in the session before the presentation. NRA was established within a 'sunset law' and necessary legal authority. NRA coordinated with different Government entities. NRA adopted a project management information system, and established CLPIUs and DLIUs for implementation of reconstruction. NRA provided a grant in three tranches through national and local banking channels. This helped to maintain transparency. To leave no one behind NRA established and managed a Grievance handling system, for which the decision-making process is highly transparent. NRA's structure ensured political consensus with the provision of Advisory Council, with the Chair being the Right Hon. Prime Ministers, and the Vice Chair of which is from opposition party. After elections local representatives contributed a lot in reconstruction.

Presentation 1: Governance and Financial Framework: Organisation, process and funding for effective reconstruction

Presenter name – Mr. Sushil Chandra Tiwari, Secretary, NRA

Overview:

PDNA estimated damage of USD 7 billion. The first donors met in 2015 June where various development partners pledged financial assistance worth USD 4.1 billion for Nepal's earthquake reconstruction. New federal constitution of Nepal guided Nepal reconstruction model. By 2021, more than 80 % reconstruction progress made; knowledge, systems and mechanisms were established, empowerment of women and youth in the affected areas observed, and Nepal continued to walk on a resilient development pathway.

Challenges:

There were many challenges in terms of fund availability, human resources recruitment, harmonizing polices, timely sanctions of files, political unrest, changes in leadership of NRA and late endorsement of 3 tiers of government mechanisms.



There was dual responsibility of the staff which did not work.

There were operational challenges like diversified works (scale, nature, coverage), public pressure (housing grants, services) 3 tiers of surveys, and time-consuming changes from regular to specialised work. No elected local bodies existed at the initial phase. NRA developed technology and capacities, and prepared specific procedures and manuals. NRA played multiple roles (coordination, implementation, M&E).

Strategies and Approaches:

Nepal government prepared PDNA together with the donor communities which estimated loss and damage of the earthquake and also estimated the resources needed for the reconstruction. There begins the planning for reconstruction. After the establishment of NRA as a special purpose vehicle for effective delivery of services, the PDRF was prepared that clearly identified the priorities, resources, and strategies for reconstruction.

1. NRA developed many procedures, manuals/ guidelines related to procurement, land management and environment
2. NRA adopted the basic principle of Build Back Better. For this NRA developed technology/ standards, enhanced the capacity of people participating in reconstruction, introduced compliance monitoring, and handled resettlement of households
3. NRA followed a consultative approach with beneficiaries, communities, School Management Committees

4. Emphasis was given to coordination and collaboration with other government depts., DPs, LGs, I/NGOs, CBOs and other stakeholders
5. NRA adopted E-governance system such as the Financial Information Management System (FMIS), Project Management Information System (PMIS), Monitoring, Evaluation and Learning System (MEALS), Human resource management System (HRMS), and Digital recording of all the data and surveys
6. NRA established transparency and Justice mechanisms by instituting a grievance handling system, toll free numbers for complaints, and an Appellate Committee for providing justice to the affected people
7. For transparency NRA developed its Communication Strategy, practiced a public hearing system, used the national banking system for grant distribution
8. In order to build ownership and sustainability, NRA followed owner-driven reconstruction for private housing and involved ministries/ Departments, NDRRMA, and Local Governments in reconstruction

Key Messages:

1. There should be a permanent entity with full autonomy for executing reconstruction
2. The governance structure should be simple but it should be effective
3. Standards, codes, practice (finance, procurement, M&E, HRM)



4. Justice – Grievance handling mechanism
5. Transparency and accountability should be primary factors
6. Empowerment of LGs and communities
7. Communication and consultation at political with all stakeholders
2. Institutional effectiveness and efficiency
3. Political and stakeholder buy-in
4. Disaster management anchored in risk-informed development
5. Flexibility and a forward-looking perspective.

Presentation 2: Governance and Financial Framework: Organisation, process and funding for effective reconstruction

Presenter name – Mr. Nigel Fisher

Overview:

Dr. Nigel Fisher presented a brief high-level overview organized around five broad lessons learned over the last six years of NRA, as regards governance and financial frameworks and to underline the importance of these lessons for assuring the legitimacy of a National Disaster Management Authority, an NDMA.

The presentation draws on both NRA experience and the parameters for the new National Disaster Risk Reduction and Management Authority, the NDRRMA.

Lessons from Nepal and Abroad:

Above all, experience in Nepal and abroad clearly illustrates the utility of creating a distinct national disaster management authority. But for the authority to be effective, it must have legitimacy in the eyes of all stakeholders. This presentation suggests five pillars on which such legitimacy can be built:

1. A clear disaster management framework

Clarity in Disaster Management Framework:

On the first pillar Dr. Nigel maintained that legitimacy is, first of all, underpinned by a clear, well-defined regulatory, institutional and financial disaster management framework – usually provided through a disaster management act and related policy provisions. Dr. Nigel's assessment is that the governance framework for the NRA was clearly laid out but in case of NDRRMA not. An NDMA has to have clear and undiluted executive authority over operations, to be able to implement legislative and policy directives.

Another aspect of the scope of authority of an NDMA. it is essential that pre-disaster preparedness and disaster risk management be incorporated into the national disaster management authority's remit. An NDMA must have a good measure of independent institutional and operational authority, whether it is located within a ministry or is a more autonomous entity, –in, for example, the office of the president or prime minister. There are examples of both models in Asia. Current provisions for the NDRRMA, lodged within a Ministry and under a very operational Executive Committee, may not empower it with the independent authority required to lead and coordinate line ministries and other stakeholders.

The financial framework for the NRA has been consistently difficult to implement. The NRA



struggled to develop financial management and accountability systems. NRA did not enjoy the full confidence of the finance ministry, thus inhibiting the functioning of the Reconstruction Fund under its authority. A robust financial framework, established from day one, is an essential foundation of an NDMA's legitimacy and authority.

Institutional effectiveness and efficiency:

The legitimacy granted by independent authority will not get an NDMA very far unless it has adequate capacity and resources, be they financial, human or material, to be effective. Effective disaster preparedness, response and reconstruction demand that special disaster management systems, standards and decision-making protocols be in place before the onset of a disaster – covering financing, contracting, procurement, human resource management or communication, for example.

The NRA faced the undue strain of having to build dependable operating systems and procedures at the same time as it was starting to deliver on its reconstruction mandate. It's important that the lessons learned from the NRA's struggles are applied to ensure the success of the NDRRMA.

Political and stakeholder buy-in:

Creating a national legal, institutional and operational framework for disaster risk management is a political process, not just a technical one. It demands a consensus, as Secretary Tiwari mentioned - the reconciliation of various political interests and their alignment around one shared national interest: that is, support of an NDMA and its leadership for effective disaster management. The NRA governance framework consciously included diverse political

perspectives. To be effective, an NDMA needs the support of all stakeholders. Equally, the NDMA has to have in place mechanisms to provide policy, institutional and technical support to stakeholders in all domains.

Risk-informed Development and flexibility:

NDMA disaster management effectiveness is considerably enhanced when grounded in risk-informed development. Nepal's Constitution, the current Fifteenth National Development Plan and the 2018 National Policy for Disaster Risk Reduction all clearly stipulate the shared responsibility of every level of government to analyze the hazards and disaster risks that Nepal faces and to develop measures for risk reduction, disaster preparedness, mitigation and adaptation. Risk-informed planning for sustainable development is a whole-of-society priority.

Flexibility and a forward-looking perspective:

The NRA has proved to be highly adaptive to evolving requirements, as reconstruction has progresses. One can witness the 27 or more policy and procedural guidelines issued by the NRA, in the course of its lifetime. Flexibility and a forward-looking perspective are trademarks of the effective NDMA.

The establishment in Nepal of a think tank like the National Institutes of Disaster Management in India and Pakistan, for example, could provide research, training and capacity-building support in disaster management to the NDRRMA, and other stakeholders, inside and outside government.



Key Remarks by the Commentators:

Mr. Bishnu Prasad Bhatt, Chairperson of Barpak Sulikot Gaupalika, Gorkha

After the election of local bodies, national reconstruction process sped up. Barpak also stood among the first few for making progress in housing reconstruction. The roles of municipalities should be enhanced in the grievances handling process. There are still some affected households not getting reconstruction grants. Similarly, the technical staff recruited from the central level were not properly mobilized and people did not get the right information and technical support. In the initial year, we saw more low quality one-room houses. In the case of his municipality, 97% plus beneficiaries have already achieved 3rd tranche. Other are still waiting the decision of the appellate court; the remaining should not be left out or behind. After the earthquake, landslides are increasing, and water sources are drying. The next campaign should be on economic upliftment so that people could economically recover and are able to pay loans and have employment opportunities.

Mr. Youbraj Bhusal, Former CEO, NRA

He worked for 9 months in NRA. The NRA Act is not very good as there some political differences. In the initial years there was dual responsibility of the staff but later all relevant government departments and institutions (CLPIUs/DLPIUs) were brought under the umbrella of NRA. After the election of provinces and municipalizes the reconstruction speed increased. Recruitment of technical staff and their mobilization were not effective during early phases. There were some lapses in housing grant allocation and technology application (one-roomed houses).

Despite many challenges, NRA was successful in completing most of the reconstruction activities. NRA deserves commendable remarks. CEO Gyewali deserves special thanks.

Mr. Leela Mani Poudyal, Former Chief Secretary of GoN

Establishment of NRA itself was a big opportunity while changes in leadership of NRA's CEO was a challenge. Formulation of the NRA Act and first ICNR created opportunities for reconstruction. Election of local bodies was another opportunity as they had committed to the people that they will help NRA to deliver results. Mr. Poudel said that most of the pillars underlined by Dr. Nigel apply to the case of NRA.

The frequent turnover of CEOs however did leave negative impacts in NRA's work, as other members which remained a big opportunity of NRA that delivered the reconstruction process very effectively. Risk informed development planning is the key to success of any program implementation. Mr. Bhatt from Barpak Sulikot Gaupalika has given very practical remarks in terms of involving municipalities in the reconstruction procedures. Relocation of affected beneficiaries from risky areas were delayed. Capacity building and dissemination of skills and orientation, as well as transfer of technical skills to local bodies are important. These 2 aspects need to be strengthened. There was need for a central level coordinating body to guide the local bodies to handle the grievances. SPV needed in future upcoming times (or not) is a big debate that needs to be discussed in detail. Having a very powerful SPV at central level is not counter-productive in the case of a country like Nepal where diversity holds.



Concluding Remarks by Chair of the session – Mr. Shyam Das Bairagi, Chief Secretary, GoN

Unique examples of success in reconstruction efforts delivered by NRA are worthy of commending. Political support to NRA was the key feature of its success. Unity of propose among all stakeholders, sense of togetherness and a shared vision for BBB remained a top highlight of NRA's success as well as the common political consensus to rebuild Nepal. The strong commitment to the principle of Leaving No One Behind was a good example. The highly appreciated support role of DPs and their strong commitments

along with synergetic roles was crucial in fulfilling the reconstruction mandate. Outreach exposure of CEO to foreign countries helped bring lessons from international good practice and success. The debate is ongoing whether we need an SPV or not. Decision making process was quite robust through NRA but there is in need of some revision, whilst adding some practical flavor, so that a future SPV would be decentralized, so that local people and structures would have more say in its function and mandate. We need to strike the right balance between overall institutional autonomy, financial autonomy and political legitimacy.



OPEN SESSION I: RETROFITTING OF PRIVATE HOUSING AND PUBLIC BUILDINGS

Chair/Moderator: Mr. Tim Hart, Retrofitting Specialist, Build Change
Session Coordinator & Rapporteur: Mr. Jhapper Singh Vishokarma, DPD,
CLPIU (Building & Housing)

Presentation 1 – Ms. Liva Shrestha, Build Change: UNOPS experience

Background:

Ms. Shrestha introduced the focus of her presentation seismic retrofitting of unsafe rural housing in Nepal. She highlighted the fact that more than 75,000 houses were taken under the NRA retrofit approach; 74% of which were rural typology. There was a lack of awareness of retrofitting amongst homeowners, and only a few organisations supporting this.

Strategy:

The strategy for the programme entailed coordination amongst a huge number of stakeholders, along a timeline starting with potential households, to them becoming confident households and finally retrofitted households.

Methodology:

75 information needs assessments were carried out, along with 5 audio PSA and 5 video PSAs;

98 community discussion programmes were followed, along with 20 TV episodes. 3 short films on retrofitting were produced and 20 information clinics conducted, all to raise awareness. Classroom based and OTJ training for Engineers followed, along with competency-based training for builders, and orientation provided to government officers. The approach included developing type designs and ready to use manuals; mobile applications; structural rule checks, ad 540 designs and drawing packages.

Impact:

Over 100,000 homeowners sensitised on retrofitting; 71 model houses and 220 homeowner houses retrofitted; 1,720 government engineers trained; 649 engineers trained OTJ; 1,516 builders trained OTJ, and ultimately 1,455 safer people.

Challenges:

LG not prioritising retrofitting; competitive cash incentives for new construction; homeowners changing status during process; engineers not



confident in technology; cost of retrofitting higher than what homeowners were willing to spend.

Way forward:

More awareness raising and sensitisation of LGs and homeowners; model retrofits to be carried out in all rural areas; approval for more ready-to-use designs and norms for rate analysis; government to incentivise retrofitting; allow incremental and phased retrofitting; increase access to financing modalities for retrofitting; include low-strength masonry design in engineering curriculums, and undertake large scale capacity building on retrofitting

Presentation 2 - Dr. Ramesh P. Guragain - NSET Experience

Background:

Programme funded by USAID to support ODR of housing; together with CLPIU – more than 60,000 HHs; No retrofitting component at outset, added later; 70+ buildings retrofitted as models; lot of training OTJ and classroom; reconstruction was going up, while retrofitting was low; different stakeholders – home owners, engineers, masons, LG, private engineers, media, academic institutions, partners, friends and family, provincial and central government, vendors: all of which lacked confidence that retrofitting was the solution.

Methods and lessons learned:

Raising awareness, capacity building and institutionalisation of demand are three initiatives necessary to make change happen; need different components; to build confidence, need to be confident ourselves (based on our experience since 1996 with schools); locally acceptable, materials

available, culturally ok; different types of retrofitting tried; 300 schools retrofitted - all performed 100%; to build engineer confidence, we had to show reliable cyclic test results; this was followed by capacity development; for the confidence of the public, we showed them in the field with model demonstrations; other awareness interventions were TV programmes and episodes; strengthening institutions – physical models, and scientific research transferred into guidelines, and then workshops and discussions. Several successful models and organisations models are proven; research in and outside the country, built confidence, and showed its economic viability; we can start with simple public buildings and scale up

Way forward:

Same amount of money spent for housing reconstruction – retrofitting could be done throughout the whole country. NPR 100,000 is enough to do a decent job

Presentation 3 - Prof. Dr. Gokarna Bahadur Motra - Public Buildings

Background:

Pulchowk campus constructed in 1970s; walls 1 metre thick; classrooms 7 X 9 metres; precast beams directly over brick columns; during earthquake very severely damaged and beams crushed; classes could not continue; reconstruction cost USD 7 million; retrofit problem – new typology of building needed new solution;

Objectives:

Evaluation of seismic performance of bricks; technical viability of retrofit; cost efficiency for retrofit measure



Methodology:

Buildings; DUDBC guidelines; material characterisation, testing of materials selection of development technology

Results:

Macro models generated; 5 different options of materials and structures tested; compress and shear stress exceeded permissible values 9 found insufficient); needed to retrofit; first need to construct brick RCC columns to support beams; then inserted shear keys in brick piers; replaced old with new materials as required; combined action of brick piers and RCC columns and beams – strengthen sufficiently; performance enhanced by 80% with lateral movement reduced by 40%;

Conclusions and recommendations:

Incremental retrofitting: option 3 RCC at ground floor, via shear keys with damaged piers replaced above; slightly increased capacity (14%). Retrofitting of masonry buildings – local resources = low cost; incremental retrofitting is possible but needs clear cut guidelines and endorsement of retrofitting in graduate courses.

Presentation 4 - Dr. Rajendra Desai, UNDP

Background:

Support from Gol – for retrofitting and training; why retrofitting instead of rebuilding? Each step costs money; retrofitting is making small changes; faster; some components only addressed. Most conveniences are not lost; can be done in phases, makes it more manageable; results in huge savings of national and global resources; smaller carbon footprint; greenest option (as compared to reconstruction)

Reducing vulnerability:

Are resources enough? No. Option is to restore, repair, retrofit first – making scarce funds go further. NRHP – new concept of retrofitting – containment reinforcement Variant for 2.5 story buildings; training, guidelines development; 38 training events, 108 engineers trained; 40+ houses retrofitted (ODR). Combination of splint and bandage system; covers majority of houses; easier to learn and implement; requires simple tools; no shuttering; reduced use of cement; Cot NPR 250+ per square foot

New element added are containment wires – 4mm placed horizontally and vertically; plus cross links with GI wires;

Results:

Validation of option on November 29-30; two models tested, one retrofitted one not; examples presented after impacts. However: very little retrofitting undertaken; long term security against quakes; people not acceptant; engineers not familiar; prefer to start with clean slate; ignorance; delivery system lacking; analysis is expensive

Taking forwards:

Sensitizing public agencies; Preparing schedule of rates; Onsite training of engineers and masons; Confidence building of the public and other actors; Materials required need to be available; Create a retrofitting delivery system

Key messages:

Make saving existing buildings priority; Go for better rather than best; every retrofitting measure reduces vulnerability of buildings; phased or incremental



approach is appropriate; discard everything or nothing approach is not valid. To summarise: Repair, Restore, Retrofit, Reconstruction and finally Relocate, in order of importance.

Commentators:

Ms. Luri KC, Retrofitting beneficiary from Makawanpur (Facilitation: Mr Deependra N. Sharma)

The earthquake damaged her house. Her family could not stay at the damaged house. Her house leaned onto the next house due to earthquake, and they did not have another piece of land to construct their house. So, they requested to the retrofitting team, who had already retrofitted three houses in their municipality. But, at the outset, they denied to retrofit on technical grounds. The team said as the house was leaning on the other house, this cannot be retrofitted. However later on at the request of the local political representative, the retrofitting team agreed to retrofit their house. The team provided four masons and offered NPR. 500 each as a 50 percent wage to them. They also worked together with the paid masons. The house owner topped up additional NPR. 500 plus food for all four masons. They team brought construction materials free of cost and the masons constructed four pillars inside the house with cement concrete and rods. The house was retrofitted within a month. They have not coloured the house yet. The house is strong, safe and good. Now they are not afraid of earthquakes. The house does not shake. Their children are safe, and they all are happy.

Mr. Sushil Poudel & Ms. Kalpana Aryal, USAID

A privilege to partner with GON. Thanks for simplifying the whole retrofitting issue. USAID is

proud to have been involved with NRA as a partner – providing USD 93 million, with focus on capacity development. In terms of building resilience, we have supported on the building code, since the onset. Now is time to applaud on the achievements, but also to reflect on retrofitting efforts. To think what we could have perhaps done differently to mainstream retrofitting better, as well as its learning, to LG levels. Formally the number of retrofitting households was 75,000- 85,000, but informally it was closer to 100,000, unfortunately it was reduced to just 25,000. Looking at correlations between economy, climate and resources with retrofitting, we missed an opportunity. How we use retrofitting from a preparedness perspective is a question for us all. USAID is pleased to support the transition of reconstruction to a longer-term process, especially to municipal level. Challenges in terms of policies and plans, and how we have handled them tell us we are on the right track. When we have disasters, we have little time to do research, so it has been important that we have already captured so many lessons, including bringing new technology into the reconstruction domain. Retrofitting was new terminology, but now it can become mainstreamed, especially with limited resources. This needs to be combined with loans systems to support next most vulnerable people in the future.

Ms. Nima Sthapit – Structural Engineer

The first presentation focus on 2 retrofitting schemes (approaches). She elaborated on the technical aspects of the two approaches. The main challenges included the ignorance of engineers, and this we need to know how to address.

The second presentation focused on awareness



for retrofitting. We need to train engineers with guidelines. We need a national code for this.

On the third presentation, retrofitting was presented using shear keys, and RCC beams etc. This facility is not as easy as it sounds, and each construction phase must be taken into consideration independently. E.g., only retrofitting ground floor level structure and with delay in completion of the building, might affect soundness of building construction (for which she expressed several technical elements). So, each phase of incremental retrofitting should be independently analysed.

For the fourth presentation, highlighted the advantages. Retrofitting is said to be advantageous if it costs only 20-40% of a new construction. However, following the codes, it is difficult to bring the costs down to this level. This then means we need to design the retrofitting of the structure with some factor of the seismic load, not the full load given by the codes. Very glad to see the shock testing on campus. These experiments shall help build confidence for engineers and homeowners.

Mr. Bharat Pradhan – Retrofitting Engineer

Thanks to all presenters and past commentators. This is especially difficult for structural engineers – to know the composition of the structures is difficult. Firstly, type designs and manuals may help 'genetically', but for complex structures (geometrics etc.) they do not work. We need to continuously update manuals. Secondly, it is excellent to make experiments. These help us design retrofitting strategies. But they are expensive to prepare, and how can we make them representative here in Nepal? Thirdly, numerical modelling. From material to context, and over time, there may be changes in the variables that we need to take into account (creep, shrinkage etc.). We need to find new strategies for this and adopt them accordingly. Related to presentation on strengthening measures. This will definitely work, but when we are proposing these, we must be sure for what level of earthquake we are proposing and what criteria we need to meet. How can we standardise this material, i.e., wires etc.? With these questions, I end my presentation.

Prof. Dr Prem Nath Maskey

Not able to join



Q A

Questions and Answers:

- Q1. When doing mud mortar retrofitting of a school in 1999, I was told I was a fool. But it worked. The term 'low-strength masonry' buildings is totally inappropriate. How do we develop and move forwards from here?
- Q2. We have a housing improvement programme, NSET is part of this. Will this programme be a window of opportunity to promote retrofitting and advocate for it?
- Q3. We have now experienced retrofitting, but how to roll out across 75 districts? Also, why don't we get (or take) exposure to other countries – Egypt, Iraq etc.?
- Q4. Retrofitting in reconstruction is quite low. How to increase and improve retrofitting, given campaign started in the 1990s?
- Q5. What is the status of students taking the courses on retrofitting and engineering, on structures, and how can I take other courses and subjects related to retrofitting and seismic aspects of reconstruction?

Answers:

We use 1 to 6 for the steel that we bend, so the same principle we use for upper floors or the shear wall. Retrofitting designs and approaches depend on the type of building. The distributed system that confines our jacket is most appropriate for most Nepali simple housing structures. It is cost effective and easy to implement.

From 1996-7, very small retrofitting. One finding, our focus was schools, not LG and not residences. Only from 2011 we had larger programmes. But then EQ came and need now again time for rolling up and out.

The perfect opportunity (Housing Improvement Programme) and this enough to provide incentive – NPR 100,000 (models – 2.5 stories).

For the experiment, we need to have a retrofitting code, this is most essential. Rate analysis is one step forward, but there are many more steps to take.

When we do retrofit at the ground floor, stress concentration will take place (just above). And for further incremental phasing, we need other initiatives. Technical insights then shared. What we have done will provide life safety during future earthquakes.

Now students can take 4 elective subjects (not in core subjects). About 40 students per year take retrofitting courses and structural dynamics, and these students can also take structural conditions and seismic aspects too.

Chair – Tim Hart – closing remarks

Regarding the loads to use, this is really good question. You are required to follow 4-code values. This is very difficult and expensive. In the US we use standard AEC41 used for the design of retrofits, and it does allow you to use for reduced load. It recognises that new buildings will not meet current



code requirements and allows owners and engineers to select performance levels. This depends on the use of the building. You would not use a lower standard for a hospital or a school, but could for a house or commercial building.

This process does not exist in Nepal, India and many other countries that we work in. We are trying to get it established, currently in Colombia, and upcoming in Indonesia (which may take several years, as it would likely do here. In order for retrofitting to become attractive, those provisions need to be there, so people have the confidence to use it. I would also be encouraging you – many of you in this room to pursue this.

We talked about public buildings, and schools, that could be used as models for promotion. If we had had time, it would have been good to touch on ICT and Artificial intelligence to support the future of retrofitting. We should also not forget that we have a

lot of vulnerable houses made from concrete frames, not just mud and mortar. They too are vulnerable to earthquakes. There are lots like this in Kathmandu, and there are schools like this. A new retrofitting programme for Nepal should also include these buildings too. They came out reasonably fine this time, but it might not be the case next time.

There is an expression in the US, “Past performance is not indicative of future results”. That disclaimer not only applies to the stock market, but also buildings performance in earthquake conditions. With this I thank all the commentators and presenters and participants, both here and logged on to follow the event. Thank you all very much.



OPEN SESSION 2: RECONSTRUCTION FROM BENEFICIARIES, LOCAL AND PROVINCIAL GOVERNMENT PRESPECTIVE

Chair: Mr. Ashok Byanju, Chair, MuAN

Moderator: Mr. Anil Chitrakar

Session Coordinator & Rapporteur: Mr. Ek Nath Bastola, SO, NRA

Moderator, Mr. Anil Chitrakar welcomed all the participants and encouraged them to contribute to the session discussion. Session Chair, Mr. Ashok Byanju highlighted on progress made in Nepal's recovery and reconstruction because of support from national and international reconstruction partners and as well as good partnership and collaboration with local government by the national government. He further noted that there are still challenges in completing the housing reconstruction of vulnerable households related to land, finance, and ownership of the property. He stressed on the need to have clarity on roles and responsibility of local governments in terms of housing reconstruction. He also stated that local governments should be more accountable and concerted efforts are required to tackle issues of climate change as Nepal is vulnerable to multi-hazards.

Presentation 1 - Reconstruction from Beneficiaries and Local Governmental Perspective

Mr. Hom Narayan Shrestha, Chairperson of National Association of Rural Municipalities in Nepal (NARMIN)

Description:

Mr. Shrestha focused on the role of local government, its coordination and collaboration with three levels of government and its significant role in expediting the reconstruction process as evident by the increase of reconstruction rate from 15% to 58% after the influence and intervention of local government following the local election. He highlighted the role of local government in the following areas:

1. Housing reconstruction accelerated after the local level election as the local level leaders



- reviewed their annual plans, budgets, policies, and programs with reconstruction as top priority.
2. Local governments facilitated in identification of earthquake beneficiaries along with reconstruction agreement signing with individual households for house reconstruction.
 3. Local governments advocated for timely house reconstruction by facilitating in grievance handling, local dispute resolution, effective mobilization of NRA deployed technical human resources, coordination with partner organization, monitoring of housing reconstruction activities and overall coordination of housing reconstruction combined with livelihood opportunities.
 4. They actively facilitated the reconstruction of local monasteries, heritage reconstruction, supply of reconstruction materials and land acquisition process among others.
1. Local governments played an important role in terms of beneficiary identification, recording of households and payment process including monitoring and supervision of reconstruction.
 2. They facilitated land identification for public building and landless households including the facilitation of availing reconstruction materials.
 3. Nepal's reconstruction process created job markets with skill-based training for local youths in the field of masons, carpentry and sanitary works combined with livelihood improvement through agriculture extension and construction of irrigation canals for agro-based products.
 4. Community people were oriented towards multi-hazard resilience.
 5. Traditional architectures were replaced by RCC construction, but it is necessary to give due attention in the preservation of traditional architecture.
 6. Provincial structure was not in existence during the initial phase of reconstruction. The role of the provincial government is important for disaster risk - informed provincial planning and directing policy frameworks towards building resilience of the people.

Presentation 2 - Earthquake Reconstruction: Local and Provincial Perspective

Mr. Bimal Pokhrel, Executive Director of Provincial Center for Good Governance (PCGG), Government of Bagmati Province

Description:

Mr. Pokhrel made a brief presentation focusing on the national policy framework which provided the local government adequate scope of work for earthquake reconstruction especially after the local election in 2017. Because of the support of the sub-national government, the pace of reconstruction significantly increased from 16% in 2017 to 68% in 2018. In this context he put forward following facts:

Commentators:

Minister of Internal Affairs, Lumbini Province

He mentioned the fact that Lumbini province has frequent occurrences of flood but has not been given due attention. Not all flood - victims were able to receive grant assistance of Rs. 50 thousand supports from the government. The Government



tried to address it through the *Janta Awas Program* (a program for providing homes free of cost to the poor people), but it is not adequate. People in Lumbini province are still living in temporary shelters. He asked why the government is not able to address the flood victims.

Mr. Narayan Bahadur GC, Chairperson, Ribdikot Rural Municipality, Palpa

He stated that they effectively coordinated with government agencies to support earthquake beneficiaries in their house reconstruction by facilitating reconstruction material supply and transportation as well as supplying timber through Forest Office of Government of Nepal.

The main issues raised in the presentations and the floor discussion:

1. The value added that the local governments' election brought and helped speed up the reconstruction process should be recognized by everyone. Having elected representatives made the work progress rapidly and this is the role of local-centric government. Local leadership has been critical for success. Progress shot from 16% to 68% in a year after the local elections were held in May-July 2017. Local people have also been mobilized including sending families back to the destroyed villages from the city where they came to after the earthquake. Local governments facilitated access to local building materials as well.
2. One major concern has been the disappearance of traditional architecture and vernacular features of buildings and settlements. The urban and rural ecosystems are more difficult to restore

than reconstructing buildings.

3. A major issue discussed was how other disasters such as floods and landslides must be taken into serious consideration. The earthquake took all the resources and attention from other disasters.
4. There is a real need to bring sustainability factors in the reconstruction and resilience building process to tackle the challenges of the coming days. Local governments have been given the responsibility to manage and maintain a lot of assets for which the resources and capacity may not exist. This should be part of future budgetary processes.
5. Role of the local governments in local dispute resolution should be understood better and documented for future reference.
6. The importance of co-ordination and co-operation of three levels of government is a key factor for moving ahead. The role of the provincial government needs more clarity.
7. The local governments are in a better situation to solve local problems but lack the needed resources including trained people.
8. Filing grievances and addressing them was time-consuming work done by local governments. There are still beneficiaries whose grievances have not been addressed.
9. The private businesses set up hardware stores during the phase where reconstruction money was there but have now left for the urban markets.
10. Land for the landless and land for resettlement



was a key challenge.

11. Buildings have come back but now the real challenge is bringing back the old economy and livelihood. Loss of livestock and poultry, for example, were still big challenges for the people.
12. Issues related to property rights are a real challenge and need further attention.
13. The fact that we have not yet managed the victims of the Melamchi disaster should be an agenda for follow up.
14. There are issues related to overdesign of buildings leading to expensive houses and people falling in debt.

Closing Remarks by the session chair, Mr. Ashok Byanju, MuAN

The Session Chair finally closed the session with the statement “Local government needs to be more prepared than ever for future disaster with due attention to disaster preparedness activities if we want to build our community more disaster resilient in the changing context of climate change and climate adaptation.” There is a need to increase the role of the private sector in building disaster resilience of the people.

ICNR-2021 PROGRAMME

08 – 09 DECEMBER 2021



DAY 3

09 DECEMBER 2021

SESSIONS AND CLOSING CEREMONY





SCIENTIFIC PAPER PRESENTATION

SESSION 3: HOUSING TECHNOLOGY

Chair/Moderator: Er. Jitendra Bothara

Session Coordinator & Rapporteur: Ms. Prathibha Bhandari and
Ms. Nisha Sapkota, NRA

Presentation 1 - Building typologies and code compliance issues of reconstructed houses after 2015 Mw 7.8 Gorkha, Nepal earthquake: Experience from Dhading District earthquake

Mr. Rajesh K. Shrestha et. al.

Research Background:

Conducted in Dhading district, it was seen that people had already started constructing (and in cases completed) their shelters. There was a Lack of experience and fully trained manpower - confusion, about newly formulated norms of NRA. Design catalogs could not meet actual requirements.

Methodology:

Sources of Primary Data were collected with the help of Field technicians and social mobilizers, during a joint field visit including M&E experts, HRRP, and focal persons, and using Interviews and Focused Group Discussions with beneficiaries and local bodies. Secondary Data came from NGOs and third-party monitoring agents.

Findings:

Based on construction practice with column building structures, composite structures, and construction floor plans of one room buildings. Based also on construction materials for stone masonry buildings (53%), Brick masonry (34%), and CC framed structures (12%), dry stone masonry and concrete block masonry.

Highest noncompliance rate (8.74%) occurred at the second inspection level with only 15.2% of the total non-compliant buildings not complying with NBC 105 (and non-compliance higher in RCC than in load-bearing buildings).

Conclusions:

1. Major housing typology - Load-bearing structures (87%),
2. NC buildings do not always mean they cannot be recommended for grants,
3. Unusual building typologies - Column building, composite structures,



4. Construction of one-room houses was just to receive grants not to use as beneficiary habitat,
5. Strict guidelines about one room construction needed for vulnerable groups, and
6. Promotion of confined masonry construction required instead of Column building through mason training and sufficient guidelines.

Presentation 2 - Effects of horizontal seismic band on seismic response in masonry structure: Application of DIC technique

Mr. Santosh Yadav et. al.

Research Background:

Analyzing the effect of horizontal seismic band on seismic response in masonry structure: Application of DIC techniques. Masonry structures - one of the oldest construction typologies. Several benefits of earthen structures (Barbacci 2020) explored.

Methodology:

0.91 m x 0.86 m x 0.32 m wallet with 20 mm thick mortar, compressive strength of unit and mortar: 1.2 - 1.4 MPa, Quasi-static cyclic loading tests on wallet, and Normal axial stress applied= 0.03 MPa.

Findings:

Classified under 3 parts by the peak horizontal displacement; develop more regular evolution pattern & effect of the previous loading cycle & cracks surface area increased (w/o band). Gradual and stable enlargement of & for wall with band, crack surface, and cracks (with band) area ~ constant.

Conclusions:

1. Higher crack area tends toward more structural damage,
2. Seismic bands emit the crack size opening,
3. Crack propagation is broken at the band, and
4. Sliding mechanism acts as interface to energy dissipation.

Presentation 3 - Construction technology of multi-tiered temples and their rehabilitation after 2015 April Earthquake in Bhaktapur

Ms. Rabina Shilpakar et. al.

Research Background:

Objective to explore construction technology and evaluate damage scenarios in the aftermath of the 2015 Earthquake. Study rehabilitation approaches included: Temples with more than 3 tiers. Case studies - Nyatapola Temple and Bhairavnath Temple of Taumadhi Square; Nyatapola Temple representing square plan-based design, and Bhairavnath Temple representing rectangular plan-based design.

Methodology:

Collection of different literature reviews and case studies from field research. Development of a rehabilitation approach which strengthened the methods and findings.

Findings:

1. Bhairavnath temple - damage in top story with Vertical cracks, shear cracks, compression cracks in lower floors, displaced joints, lifting of joists,



decay of timber members. Causes – dampness and structural reasons.

2. Nyatapola Temple - clockwise torsional drift of top roof and surface cracks. Causes - Structural reasons.
3. Rehabilitation approaches: Workshops, Detailed Damage Assessment, Rehabilitation through Users' committees; Grouting and reconstruction of top floor using traditional Newar construction technology.

Conclusions:

1. More damage in the top floor (both cases) caused by inconsistent relative motion of wall and roof, dampness, lack of regular monitoring and maintenance responsible for decay, insufficient keys and joints required
2. Damages can't be avoided but reduced
3. Regular monitoring and maintenance essential
4. Detail documentation of causes, damages and rehabilitation approaches required

Presentation 4 - Comparing Seismic Retrofitting Approaches of Traditional Stone Masonry in Mud Mortar Buildings in Nepal

Mr. Sandeep Man Shakya et. al.

Research Background:

More than 74% of the houses in 32 earthquake affected districts are SMM houses. More than 90,000 retrofitting beneficiaries where less than 1% of those retrofitted their houses. Larger potential of preventative retrofitting of traditional SMM buildings

across Nepal. Implementation of Government approved retrofitting approaches include both Splint and Bandage Retrofitting approach, and the Strong-back Retrofitting approach.

Methodology:

Comparisons are based on the following:

1. Experiences implementing both approaches over a 3-year period,
2. Feedback from the design team, the site team, the builders, and the homeowners,
3. Analysis of data from implementation of both approaches as part of DFID funded project on Seismic Retrofitting of Unsafe Housing in Nepal, and
4. Analysis done with respect to construction issues, durability, cost as well as environmental impact comparison.

Findings:

Cost of retrofitting is less in comparison to equivalent SMC or BMC. Splint & Bandage technology is slightly more expensive than Strong-back retrofitting. Availability of specific materials is key to the adoption of either retrofitting techniques. Splint and bandage approach is more suitable for straightforward buildings with limited additional walls (e.g., cross walls and buttresses) and for buildings with low quality masonry that needs strengthening. Strong-back approach is best suited to larger houses, with multiple walls/cross walls projections and where the piers are vertically aligned. For durability it would be more suitable for SMM buildings to be plastered with a material that does not allow moisture to be trapped



inside. Strongback retrofitting has less GWP (kg Co₂ ea/m²) in comparison to Splint and Bandage. The GWP (kg CO₂ ea/m²) for retrofitting is significantly lower than that for equivalent new construction.

Conclusions:

1. Strong back approach is more suitable when masonry is of relatively good quality, buildings are large with multiple internal walls, piers are vertically aligned, especially for places where there is issue in availability of wire mesh.
2. Splint and bandage approach is more suitable when masonry is of low quality, buildings have limited internal walls or projections, availability of wire mesh is not an issue, and plastering can be delayed.

Presentation 5 - Earthquake Damage Prediction of Buildings in Nepal using Machine Learning Tools

Mr. Subash Ghimire et. al.

Research Background:

Efficient seismic risk mitigation requires information on extent and spatial distribution of potential damage. Seismic risk modeling = exposure x hazard x vulnerability. Seismic damage prediction is still challenging at urban/regional scale.

Methodology:

Effectiveness of machine learning methods in urban/regional scale seismic damage prediction.

Findings:

Reasonable estimate of building damage. RFR= Random Forest Regression, of which basic features =

number of floors, age, height, floor area, MSI. Traffic-light based damage classification applied: Slight (S)=Green; Moderate=yellow; Heavy =Red.

Conclusions:

1. Machine learning tools (Random forest regression) and post-earthquake building-damage database could be a potential way for seismic damage prediction at urban/regional scale,
2. Basic features (no. of floors, floor area, height, age) plus micro seismic intensity provide a reasonable estimate of damage, resolves data acquisition challenges
3. Higher effectiveness found in TL-based damage classification method
4. Effectiveness of such methods over different region and temporal evolution of built-up environment needs to be further investigated, and
5. Development and open access to national housing portfolios and past earthquake building damage information should be prioritized.



THEMATIC SESSION 6

IMPACT STUDY AND LIVELIHOOD

Chair: Dr Yuba Raj Khatiwada, Former Finance Minister

Moderator: Ms. Pinky Singh Rana

Session Coordinator & Rapporteur: Mr. Ram K. Shrestha, Economist,
NRA

Presentation 1 - Dr Bishnu Bhandari, Executive Committee Member, NRA

Overview:

2015

- 94 mil. Workdays lost affecting 5.6 mil. workers
- 32 districts with 2.8 mil. households affected
- About 74,500 workplaces completely damaged
- Loss of US\$ 171 million.

2021

- 166 mil. workdays generated
- 77 thousand masons trained
- 4.6 mil. households reached out
- 300 CBOs empowered
- The excluded were included (GESI)

Challenges:

1. Livelihood always of low priority,
2. Heterogeneous issue,
3. No way to replicate or continue good practices,

4. Concerned only with result, no outcome, nor impact assessed,
5. Only focus on 14 districts, and
6. Problem of access to institution, finance, market, soft loans, and skills.

Strategies:

1. Training of Semi-Skilled Workers,
2. Smart Partnership, and
3. Demand Based Intervention

Methods and approaches:

A Qualitative research method was used in preparing this report, including -

1. Formation of an Expert Team (7 members),
2. The table of content drafted, discussed & revised,
3. Research tools employed: Secondary data review, Observation, Key Informant Interview,



Informal Discussion,

4. Statistical tools: Descriptive statistics such as Percent, Ratio, Arithmetic mean & frequencies were used,
5. Presenting information: Cross tabulation, Graphic presentation, figure & report writing, and
6. Draft report discussed, reviewed & refined.

Lessons learned:

1. Involvement of financial institutions, local government & the private sector was helpful in scaling up and rolling out good cases,
2. People's confidence is key to move forward for which transparency and accountability play a key role,
3. Livelihoods only minimized the issue related to disability,
4. Beneficiary receptive to the cash-for-work scheme,
5. Special support was required for vulnerable groups, and
6. The end-line survey good for self-assessment.

Key messages:

1. Smart partnership is needed to avoid duplication, promote healthy competition & use resources wisely.
2. The cost sharing arrangement is key to ensure the sense of ownership.

3. The provision of incentives helped the trainees to apply their new skills.

Commentators:

Mr. Krishna Bahadur Majhi

Questions: There is lack of ownership among the beneficiaries receiving livelihood support from different agencies and in many cases, they have left livelihood intervention incomplete, with a wastage of resources and time. Do the studies show whether livelihood interventions by development partners and government are based on tailored approaches or other approaches such as targeted or blanket approaches? Additionally, are livelihood beneficiaries taking steps to sustain and protect livelihood interventions, and are they diversifying their livelihood strategies so that they can deal with slow disasters or disasters of high momentum like the earthquake of 2015?

Sambhu Tamang, Purnima Tamang

Radhika Shrestha from Sindhupalchowk Red Cross provided masonry training, so technical knowledge has increased daily wages from 500 to 1000 rupees. Nonetheless, females were often dominated and were not trusted as masons.

Jasmine Raj Bhandari, Senior Social Protection Specialist

Appreciated hearing of female masons. However, livelihoods only received limited coverage, though after the PDRF allocated NPR 8.8 billion on livelihoods, a massive impact was felt. In terms of identification of vulnerable groups, information was provided by the Department of National and Civil Registration, especially for cash transfers; they included only 2000



financially literate.

In the shock responsive social protection system, temporary employment, in a time of post disaster, can promote livelihoods in the short term. Building on this, and establishing an integrated system under NDRRMA, a new Shock Responsive Social Protection System guideline is in the pipeline.

Need for a shift in understanding, from resilience of buildings to resilience of people, resilience of communities, and resilience of families.

Paul Rosenberg, UNDRR

Preparedness for recovery and build back better should be applied; recommended is the IRP – International Recovery Platform for access to a good range of information products.

Lena Michaels, Asia Foundation

We need to look and go beyond housing reconstruction, adopting holistic approaches.

Presentation 2 - Dr. Govinda Nepal

Research objectives:

1. Evaluate the physical and financial performance,
2. Assess socio-economic impacts,
3. Estimate the contribution of reconstruction activities to GDP,
4. Record the lessons learned, and
5. Recommend institutional frameworks to sustain and build on the gains of reconstruction.

Methodology:

Mix method – quantitative (difference in difference method and SNA method) and qualitative; Secondary information - desk review; Primary information: FGD– 4 districts and KII (24), and HH survey 4824 households (4042 Beneficiary and 782 Non beneficiary); Survey area- 24 districts, 163 municipalities and 1051 wards.

Outcome and impact – Technical and Financial:

Financial Input - Rs. 868 billion (HH Rs. 283 billion); the share of capital expenditure in total expenditure ranged between 56 to 97 %; Private housing expenditure -63.66 % • HR input in FY 2020/21; 7500 technical persons (with engineering and social mobilization expertise), and 750 mobile masons from NRA and other Government staff.

Outcome and impact - Social:

Employment generation - 407.5 million work-days; Health expenditure increased; Increase in education and food expenditure; Use of unsafe waters decreased; Increased adoption of biogas and solar energy; Increase in post -natal cares (44 percent); On average, 3 to 5 percent more households owned TV and mobile sets; Positive but insignificant impact of heritage reconstruction on tourism income; Pre-earthquake 5 -year average economic growth rate 3.4 % but post-earthquake 5 %; Construction sector growth in GVA 7.5 %; Increase in agricultural income.

Broader Socio-Economic Impact:

Deepening financial inclusion; Financialization of rural economy; Capacity building of youth and entrepreneurship development; Social cohesion and community development; Economic empowerment



of women; Increasing household expenditure; Diffusion of resilient technology; Positive impact on overall economy.

Lessons learned:

Evidence based , resource backed, well-coordinated Reconstruction Plan; A dedicated authority with adequate legal, HR and financial mandates to execute the programs; Rule- based execution; Procurement policy supporting quality reconstruction; Designated SAR team should be well trained and equipped both at federal and local level; Livelihood promotion program - an integral part of reconstruction; Capacity building of local governments for disaster preparedness and immediate response; Mission for resilient nation is a continuous process.

Key Findings:

1. Disaster preparedness found rather poor,
2. A major shift from stone and mud-based masonry to cement-based building construction,
3. Household investment significant- NPR. 283 billion,
4. Household indebtedness (31 % HH) – Rs. 183 billion,
5. Livelihood programs - limited coverage with few success stories,
6. International funding played vital role,
7. Positive economy-wide impact,
8. NDRRMA - a natural successor of NRA, and
9. Despite many adversities, NRA successful in achieving major targets.

In relation to longitudinal data, the question of sustainability remains: once the reconstruction process is over, how can we maintain levels of employment?

Concluding remarks by the session chair, Dr. Yuba Raj Khatiwada, Former Finance Minister

Quantitative data provided raised issues related to measurement: what was the exact number of jobs created in the process? Unless we normalize the data, it appears that GDP has dropped significantly, so we cannot measure the post-earthquake impact on growth. Additionally, there were elections that created a lot of activity in the economy. Financial inclusion is an 'illusionary term'. People opening bank accounts, does not account for how much the accounts are utilized (perhaps only three times to coincide with the three tranches disbursed?)



ROUND TABLE DISCUSSION 2: RECONSTRUCTION FROM DEVELOPMENT PARTNERS' PERSPECTIVES

Chair: Dr. Bindu Lohani

Moderator: Mr. Deepak Raj Joshi

Session Coordinator & Rapporteur: Ms. Rita Lamsal, Section Officer,
NRA

Setting Context:

Mr. Arnaud Cauchois, ADB Country Director

Mr. Arnaud Cauchois, the ADB Country Director, congratulated the NRA and the reconstruction partners while setting the context to the topic of round table discussion related to "Reconstruction from Donor's perspective".

- He put forward his views based on the ADB's experience working with NRA for reconstruction projects and highlighted the processes and initiatives which have greatly enhanced the efficiency of Nepal's reconstruction efforts.
- He stated that publishing of post disaster needs assessment (PDNA) helped donors identify their funding areas with funding commitment. Post disaster recovery framework (PDRF) developed the policy decisions, institutional arrangements, financing, and financial management strategies, as well as implementation and monitoring systems that were in place to plan and manage recovery and reconstruction.
- Emergency recovery and reconstruction should be fast tracked to minimize impact on the affected people.
- He stated that frequent replacement of Chief Executive Officer (CEOs), 4 appointments of CEOs in 5 years of NRA, impacted badly on the quick policy decisions. He stressed on the need to give equal attention to all sectors since much of the NRA attention was to private housing reconstruction leaving the education and public building and roads sectors to CLPIUs only.
- It was a good practice of holding regular coordination meetings of development partners informing on the aid effectiveness in every sector such as education, private housing, office



buildings, health, transport, tourism, and cultural heritages.

- Establishment of a dedicated entity as an executing agency for reconstruction created a trustful environment for fund management, design and implementation and timely completion of reconstruction projects.
- Lessons will be pertinent for any new institutions which will be responsible for reconstruction in the future.

Paper Presenter:

Mr. Bhagawan Aryal, Joint Secretary at NRA

The presentation focused on development partners' contribution to Nepal's reconstruction. He stated that 58 development partners participated out of which 24 development partners pledged reconstruction support of 3.71 billion USD (42% grant and 58% loan). 17 development partners came forward to work in Nepal.

Following the presentation of the Joint Secretary, representatives from FCDO, JICA, China, India, UNDP, UNICEF, UNOPS, USAID, World Bank provided their remarks where they commended the work of NRA and all of them appreciated the work of NRA. They further expressed their commitment to support the government on strengthening the green, resilient, inclusive development agenda of Nepal.

Remarks:

Ms. Radha Verma, FCDO

Ms. Verma stated that openness and a collaborative approach, despite changes in CEOs, helped development partners to respond in real time. FCDO championed in making sure that no one is left behind in the reconstruction process. Retrofitting work was challenging and failed to address urban recovery partly because of policies. She mentioned that it didn't quite speed up as compared to rural reconstruction.

JICA representative

JICA stated that their assistance was based on the Build Back Better principle where they assisted with building resilient schools, housing reconstruction, and addressing the needs of the earthquake affected beneficiaries through community mobilization programs. They were able to complete reconstruction along with building capacity of the local population for sustainability of the program.

Mr. Barnardo Cocco, UNDP

Mr. Cocco stated that owner driven reconstruction has been an example of a success story and lessons from this reconstruction should be widely disseminated for broader audiences.



Mr. James McQuen Patterson, Deputy Representative, UNICEF

Mr. Patterson stated that having their mandate to address the needs of the children and providing support in the reconstruction of transitional educational facilities and UNICEF always kept vulnerable and landless people at the center of the reconstruction. He further mentioned that while learning lessons from recovery, the end of any project is a new beginning of preparing ourselves for better response with effective durable solutions.

Mr. Karun Bansal, First Secretary of Embassy of India

Mr. Bansal stated that there has been good learning during the six years of the reconstruction period, which should be utilized for future disaster response. The government of India was able to complete its housing part and cultural heritage is nearing completion.

Mr. Komal Karki, Country Manager, UNOPS

Mr. Karki stated that their operational support for the implementation of household registration process led by Central Bureau of Statistics (CBS) to identify affected households and supporting the expansion and extension of a management information system (MIS) led by Ministry of Federal Affairs and Local Development (MOFALD) and Ministry of Urban Development (MoUD) was the largest tablet-based survey ever undertaken anytime anywhere after a disaster to identify the affected households. Through this initiative, they were able to identify more than 600,000 eligible beneficiaries out of surveyed almost 900,000 households, for housing reconstruction grants in fourteen earthquake affected districts.

UNOPs supported the construction of 24 school buildings, 9 police buildings and 23,000 private houses and provided socio-technical assistance (STA) in partnership with various donor partners. He further stated that technical support provided to each individual house owner to build back better and greener with application of new building codes developed by government at local level was one of the remarkable achievements.

Representative from USAID

USAID stated that Nepal's reconstruction is a testimony of the good, solid leadership that has successfully completed its mandated task. He further said that Nepal is climate vulnerable, and the US government is committed to supporting the mandate of NDRRMA to help Nepal build back better.

Mr. Hemang Karelia, World Bank

Mr. Karelia stated that this was one of the largest housing reconstruction programs that has been done well in building back better. There was good partnership and collaboration with development partners. He stressed on the need to sustain institutional memory that must be well utilized for future disaster response. Private sector engagement could have been better in Nepal's reconstruction and recovery.



Closing Remarks by the Session Chair, Dr. Bindu Lohani

The Chair of the session stated that the impact of disaster on lives and the economy is severe. Developing countries don't have adequate resources to plan of time and therefore require support from development partners. In the context of Nepal, resources provided by development partners were reasonable for institutions like NRA to implement their mandate keeping people at the center of recovery and reconstruction. He further added

that the power of partnership was very strong that brought synergic effect because of collaboration and coordination among donors, development partners and GoN although there was not much achieved in retrofitting and private sector engagement was not much paid attention. NRA is a success story and lessons should be utilized by the country, and by the government in handling disaster response in future, with proper knowledge sharing and management which should be well preserved and properly utilized.



ROUND TABLE DISCUSSION 3: MOVING TOWARDS RESILIENCE: NATIONAL DISASTER RESILIENCE FRAMEWORK

Chair/Moderator: Mr. Sushil Gyewali, CEO, NRA

Moderator: Mr. Anil Chitrakar

Session Coordinator & Rapporteur: Ms. Anita Niraula, Joint Secretary,
NDRRMA

Presenter:

Mr. Anil Pokharel, Chief Executive, NDRRMA

Focus of Presentation/Key takeaways:

1. As we conclude post-disaster reconstruction and recovery from 2015 Nepal earthquakes, Nepal continues to face increased vulnerabilities from multiple hazards including twin crises of climate change and socio-economic impact of COVID-19 pandemic.
2. While we reflect on the tremendous number of lessons identified in the past 6 years of Nepal's post-earthquake reconstruction journey, it is imperative to take these lessons forward, towards a green, resilient, and inclusive development pathway. For this, the NDRRMA is charting out the National Disaster Resilience Framework (NDRF) to identify and prioritize areas that need focused investment and attention, aligning with the Sendai Framework and Sustainable Development Goals. The NDRF will identify medium-term (up to 2025) and long-term (up to 2030) priorities.
3. The priority areas identified align with the Sendai Framework for Disaster Risk Reduction and start with "understanding disaster and climate risk", that is a prerequisite to move towards risk reduction, mitigation, and preparedness for response.
4. Eight priority areas identified for the NDRF include:
 - i. Understanding disaster and climate risks.
 - ii. Strengthening Disaster Risk Governance at Federal, Provincial and Local Levels.
 - iii. Increased public investment in DRR for resilience.
 - iv. Enhanced disaster preparedness for effective



- response.
- v. Build Back Better in recovery, rehabilitation, and reconstruction.
 - vi. Research, training, and capacity building.
 - vii. End-to-end multi-hazard early warning systems.
 - viii. Disaster Risk Financing.

Comments/suggestions:

1. There are different policy documents on climate change and disaster risk management. As many disasters are climate-induced, there needs to be a coherence between different policy documents.
2. Wider and extensive stakeholder consultations and participation will bring different actors together, clarify mandates and form consensus on the framework leading to ownership and successful execution.
3. Local government's proximity to the affected or at-risk communities and their familiarity with the local context makes them most suited for works related to disaster risk reduction and management. However local governments lack capacity and resources to deliver the functions.
4. The NDRRMA has an important role on the climate agenda, particularly loss and damage, that has not so far been adequately recognized and accepted in the current scenario.
5. The NDRRMA as an apex institution is not yet fully realized – NDRRMA lacks full institutional autonomy to steer the functions entrusted to it.
6. Adequate financing will be required to translate the priority into actions. Financing needs for each area identified will have to be worked

out including the counterpart funding and support from development partners. Ensuring provisions of multi-year budgets for activities will be critically important to enable smooth implementation to achieve the targeted goals.

Response from Chief Executive, NDRRMA

The NDRRMA is responsible for building capacity of local governments in undertaking devolved functions regarding disaster risk reduction and management, and proposed priority areas of NDRF recognizes the critical role of local governments in building community resilience.

The planned Structural Integrity Assessment of Social Infrastructure and Public Buildings will help to understand risks, and plan interventions such as repair, retrofitting and reconstruction to save lives. NRA's experience, particularly in retrofitting, will help NDRRMA to retrofit schools to make them resilient to multiple hazards.



OPEN SESSION 3: URBAN HOUSING AND WAY FORWARD

Chair: Mr. Purna Kadariya

Moderator: Dr. Ramesh Guragain

Session Coordinator & Rapporteur: Mr. Bipin Gautam, CLPIU (Building & Housing)

Paper Presentation 1:

Mr. Surya Bhakta Sangachae, Urban Expert, NSET

Key Messages:

1. Regeneration and conservation according to the urban regeneration plan
2. Heritage settlement regeneration plan must include the community participation's financial balance and balance between people's basic need and the tangible heritage recovery is must for urban housing.

A few components for urban housing are:

1. It is essential to train local people, low-cost housing and community building concept and restoration should be prioritized
2. The capacity of local government shall be strengthened

3. Production and trading of traditional construction material should be promoted
4. Flexible policy designing is required, adopting owner driven reconstruction and ensuring community engagement, and
5. CSR fund revolving fund and low interest insurance are key for financial sustainability.

Policy aspects: NDRRMA is visualized as a coordinating body for post-disaster reconstruction and recovery and the local authorities are recommended as the implementing agencies which will be led by the provincial governments. Private sector engagement is important for the reconstruction and recovery of slum areas where self-investment is hardly managed or not possible to manage.



Paper Presentation 2:

Mr. Maniram Singh Mahat - Former Executive Director of Town Development Fund (TDF)

Background: Status of borrowing financial model, factor affecting subsidized financial model. The interaction with the beneficiaries, policy review is the methodology.

Findings:

1. Only 13% people borrow 0.3 M grant, and
2. Trust of private banks to NRB is high, with the government losing credibility.

Commentators

Mr. Puskar Manandhar: Pilachhe reconstruction and tourism promotion project

Background: Housing and habitation are a magnet for social cohesion and an entry point to start the process of recovery. There were many challenges, and community discussion is a leading factor for reconstruction. The housing reconstruction on physical aspects or generating the area as a commercial area is essential, otherwise people will start leaving. Development of intangible facilities is important to start with.

Urban recovery should be a continuous process and institutional arrangements made at the local level are important. There is a need to have a proper structure despite limiting community participation in the user committees; it should be like the structure at the central level.

Mr. Subarna Shrestha, Mayor Shankarapur

A 3300-year-old settlement and severely affected

area is Sankhu; this needed a tremendous effort on reconstruction. The challenge was to preserve or conserve the city. The bylaws have been developed. Municipality 0-1-3-0 is a small size plot. The cost of heritage FACAD is high in compared to the cost of construction of houses constructed outside the city. Municipality provided 100 subsidies for FACAD and there is a discount on tax. People who don't have land to build are still living in temporary shelters.

People that migrated from Sankhu did not return to the city, and we are encouraging them to return.

Mr. Manjit raj Pandey, Housing Advisor

Urban housing reconstruction is low (61%), and around Kathmandu valley 38%. Lack of planning and preparedness are the causative factors on recovery.

Mr. Dipendra Nath Sharma, Former Secretary - MoUD

Progress on urban housing reconstruction is low compared to rural reconstruction, for which policy, capacity and financing gaps are highlighted. Policy reformation, funding mechanisms and socio technical support for urban recovery is required. In terms of policy reformation, the urban act needs to be considered as the main recommendation presented by the SBS. In terms of institutional arrangements, having only two directorates is not sufficient; NDRRMA should coordinate with urban planning and the national research institute for urban studies. There is a need for provincial capacity building as a focus. PURPP supported by MOUD implemented by Lalitpur municipality is an example where the finding was that losing traditional assets must be considered and addressed. Ownership by NDRRMA alone and cannot fulfill the country's needs.



Ms. Sangita Shrestha, Proprietor, Dwarika Hotel

In a perception of architectural preservation, the slow-going process of preservation of tangible and intangible heritage is in danger due to emerging construction materials. Integral responsibility to save heritage is required among the key stakeholders. Bringing awareness to recognize some heritage also as private property is important. Our unborn generation will desire traditional conservation. It must be owner driven and community driven for sustainability. Economic sense is required, and zoning is important. A master plan is needed to give clear characteristics of urban form and preservation, with restoration plans aligned to its fabric. Traditional architecture is a matter of pride; raising awareness on this is a departure point for community participation.

Mr. Sarad Basnet, City Planning Council, Kathmandu Metropolitan City

Kathmandu heritage building preservation and construction facilitation guidelines cover four areas

1. different zones,
2. defines heritage building construction bylaws,
3. community level construction methodology and planning, and
4. building facilitating guidelines. KMC is going to provide an 8-32 grant to housing reconstruction according to the typology of the building and location for which they are receiving applications. KMC will come up with different issues from the learning of this guideline, which will be updated continuously.

Summary: Intangible heritage is dying, Incentives for financing support, and ODR are key factors.

Questions & Answers

- **What was the barrier for not disbursing grants by the banks?**

Answer: At the time of the crisis, the banks never recognized poor people who don't have any property. The KII with microfinancing (D cat bank Chair), urban poor have access to microfinance, while the government denies microfinance institutions to disburse money to the poor.

- **Is there any thought on cooperative housing focusing on urban poor?**

Answer: Some countries in Latin America and other parts of the world have tested this, but results indicate that this is not really working.

- **In urban areas, building bylaws are observed as hurdles. How are the municipalities tackling this issue?**

Answer: BC and bylaws are not only for the engineers; they are also for the house owners. Municipality responsibility is not only approval, but it should also be supportive to the HO, and this is the focus and response they are giving to this matter. Additionally, legal support is required for urban areas particularly on financial pay back mechanisms, which must be well investigated and included in different guidelines.



**Concluding remarks by the session chair,
Mr. Purna Kadariya**

1. Unless there are strong systems in place, it's hard to reach needy people. Until and unless clear pathways are identified to address this, with establishment of those financial and legal and institutional systems, it will remain a challenge to serve urban poor people. There are many things in the process which should not be forgotten. 1988 earthquake needs and capacity at local level need to be well studied and it should be addressed on an individual basis by municipalities. The individual efforts will not work in redevelopment; community participation is a must.
2. Finance is not only establishing the mechanism and channels for disbursement; financial mobilization is important. Our municipalities need to be more proactive and retrospective. The municipal information needs to be more sound and well archived and accessible.

KMC work is seen as exemplary. Flexibility on guidelines and by laws is recommended for municipal councils.



SCIENTIFIC PAPER PRESENTATION SESSION 4: URBAN HOUSING AND HERITAGE

Chair/Moderator: Er. Jitendra Bothara

Session Coordinator & Rapporteur: Mr. Surat Sunar, Engineer, NRA

Paper Presentation 1: Community led post-earthquake heritage reconstruction in Patan - issues and lessons learned

Mr. Rupesh Shrestha

Key Messages:

Challenges in community led heritage reconstruction include financial aspects, financial lagging, human resources, social processes, knowledge, and capacity gaps. Sense of belonging is essential.

Challenges exist in community led reconstruction; User committees are challenged in taking decisions. Government capacity building is lacking.

Paper Presentation 2: Community-based participatory approach in cultural heritage reconstruction: A case study of Kasthamandap

Mr. Rija Joshi et. al.

Key Messages:

Kasthamandap is a 7th century monument which collapsed in the 2015 earthquake. Self-motivated

locals' campaigns emphasize and prioritize the rebuilding of Kasthamandap. Ethnographic research direct observations included:

1. Modality of reconstruction is always challenging in a heritage structure,
2. Documentation of tangible and intangible heritage is usually missed, and
3. Investigating of the traditional structure component should be revisited for reconstruction work.

Paper Presentation 3: Unraveling constraints of urban housing reconstruction

Dr. Chandra Bahadur Shrestha et. al.

Key Messages:

1. The progress on urban housing is not as desired,
2. Urban poverty is rising faster than the rural poverty,
3. Access to land, ownership and building structural issues are key which is beyond the scope of NRA,



4. There has been limited engagement of local government,
5. Initiatives for retrofitting and vulnerable beneficiaries came late, and
6. Approach and redevelopment and land adjustment - whilst practiced in Japan, may be appropriate for the Nepalese context (need to study and adopt).

Paper Presentation 4: A Comparative Investigation of Seismic Standards Is1893:2016 and Nbc105:2020 in the Context of Seismic Design of Dharahara, a Historic Monument in Kathmandu Valley

Mr. Manohar Lal Rajbhandari et. al.

Key Messages:

Details of Dharahara - Design in Tube in Tube concept with tapered RC columns at four edges. There are 8 columns around the periphery, base share value has increased by 125.8%. The site-specific response spectrum has been carried out.

Paper Presentation 5: Urban Regeneration of Dolakha: Prospects and Challenges

Mr. Surya Bhakta Sangachhe et. al.

Key Messages:

Urban regeneration is a process of bringing life into a deteriorating city thus growing its future potential of development. Dolakha was damaged by 2015 earthquake. Regeneration plans are essential to conserve the value, revitalization of place, preserving the identity of place key aspects of regeneration.

Findings:

1. There is threat to the authenticity of the place since 6% of RCC structure were already constructed and 72% of the population migrated; thus, the perspective for preservation of Dolakha is different in terms of preservation. People are migrating due to lack of opportunities
2. There is a divided society: municipality does not have proper plans, with a few misconceptions on structure that RCC structures are safer and stronger during earthquakes
3. There is no system of passing on traditional artesian skills
4. Participatory decision making, and implementation is key for preserving community heritage
5. The relationship between local and central government is important
6. Changing values and lifestyles must be factored in, and
7. Heritage conservation is not just about buildings and monuments, but also about livelihood and social values.



Questions and Answers:

- **Community participation is specific to the specific ethnicity. What is a trigger mechanism to coming together and working for the common good?**

Answer: If community people have common rituals they will come together if they are seen as communal.

- **What are the challenges faced so far due to the increasing seismic standards?**

Answer: The first objection is from owners, always doubting high structural component sections and detailing. Secondly, changing the structural engineer is common for homeowners, however regulations through municipalities is the only way to regulate this. Hence social acceptance is essential.

- **Are there any Nepalese cities that provide an urban rebuilt example?**

Answer: No substantive action has been taken on this front. Urban renewal has started but not in full. Urban renewal and urban regeneration are two different approaches. Regeneration requires conservation aspects, whilst urban renewal is more for urban slums. These two models need separate policies, mechanisms, and facilitation.

- **When comparing between IS 1893, 2016 and NBC 2020, which code should take precedent?**

Answer: Most certainly the Nepalis Building Code.

- **Did you look at the socio-cultural issue in urban housing?**

Answer: Land and financing are the major issues, but land readjustment needs some sort of government commitment.



ROUND TABLE DISCUSSION 4: RECONSTRUCTION FROM I/NGOS & PRIVATE SECTOR ORGANIZATIONS' VIEWPOINTS

Chair: Dr. Bishnu Bhandari, Executive Committee Member, NRA

Moderator: Ms. Pinky Singh Rana

Session Coordinator & Rapporteur: Mr. Bishnu Subedi, US, NRA

Session Goal:

Documented lessons learned on post-earthquake reconstruction and way forward to strengthen I/NGOs and private sector role in future reconstruction process.

Presentation 1 – Er. Minar Thapa Magar, National Coordinator, Housing Recovery and Reconstruction Platform (HRRP)

HRRP presented the overview of the post-earthquake 2015 and current progress of six years of reconstruction program. Post Disaster Recovery Framework in 2015 has estimated USD 7 billion for the reconstruction process in Nepal. Approx. 90 million USD was contributed by I/NGOs in the reconstruction process in all sectors by 267 organizations.

Key Lessons:

- Efficient I/NGOs planning and monitoring processes

- Ensured maximum transparency and accountability through local and social audit
- Joint Monitoring Visits were regularly conducted by NRA, HRRP and other partner organizations
- Efficient coordination between government and partner organizations at all levels
- Efficient targeting to most vulnerable from Day 1 of recovery process
- Equity in response in all geographic areas at once

Key takeaways:

- I/NGOs mobilization Guideline required for efficient mobilization of NGOs in NDRF
- Pre-setup Special Disaster response and recovery funding and project approval
- Partner Project Tracking Mechanism and regular monitoring



- Regular Partner Coordination Mechanism through platforms like HRRP
- Focus on Strengthening Local government capacity
- Prioritize support to most vulnerable among affected in DRR, disaster response and recovery
- Multi-year funding mechanisms to be promoted and appealed.
- Roadmap and Action plan to jointly contribute towards Nepal Disaster Resilient Framework

Presentation 2 – Mr. Arjun Bhattarai, Deputy Secretary General, NGO Federation

Updated that more than 1,000 NGOs are closely working at the local level during and after the earthquake. He expressed that the NGO federation has contributed to research publication and monitoring to support recovery and reconstruction programs in all sectors. He announced that NGOs have contributed NPR 6.8 billion to recovery and reconstruction process.

Lesson Learned:

- As NGOs are the first responders in the disaster response in their respective communities, the government should utilize the capability of NGOs and engage them in DRRM activities
- In the immediate aftermath of the 2015 earthquake, the government was unable to reach all the affected places efficiently to provide an effective response. During this crisis, NGOs assisted the government by providing relief and assistance in these affected places and saved the government from public outcry and

mitigated the crisis. Hence the NGOs can be used in similar circumstances by recognizing NGOs' competency

- During times of disaster, coordination is often weak amongst the various governmental and non-governmental institutions working on helping the affected, and NGOs can play a coordinator role and help the needy group by prioritizing them using the one-door policy
- In a disaster situation, local NGOs know affected communities and their people and can provide an immediate and efficient response. NGOs should be pre-positioned to deal with such scenarios
- NGOs can deal with different kinds of rumors by understanding them thoroughly and relaying the actual information to the public. NGOs can be used to clarify such confusion and other queries
- People's trust in NGOs can decline while working on disasters as they mobilize a lot of funds while working in such scenarios. Public participation can be ensured in such works and public hearings can be done to provide accountability to the public to increase their trust
- Most of the post-earthquake recovery efforts are concentrated on physical infrastructures. Priority should also be put on sensitizing the public affected by the trauma of disaster by providing needed psycho-social counseling. This is often overlooked however it is equally important



Recommendations:

- NGOs must ensure the adequate number of marginalized and vulnerable people in their human resources and mobilize them when needed
- NGOs can mobilize significant financial resources in the recovery process (as per the 2015 Gorkha Earthquake) ensuring proper and accurate mapping of vulnerable groups, areas, and region
- Mitigation and preparedness must be done in such areas in coordination with all stakeholders aiming to raise awareness and community's capacity while adopting a whole-of-society approach
- NGOs need to share the data and resources they have available amongst each other digitally under simplified categorization without any barriers along with their institutional capacities and ensuring scope for better communication and collaboration to avoid duplication
- Community participation must be ensured in every process of the DRRM by NGOs to promote indigenous knowledge, increase community awareness, establish knowledge sharing culture, ensure ownership within the local community and facilitate monitoring and evaluation process
- Projects must be demand-driven and consultation between affected communities and donors before the start of the project is necessary and should be facilitated by NGOs. The NGOs must also make it a priority to align their goals and projects with the national priorities and goals
- Local government must formulate and regularly revise a clear Standard Operating Procedure in the context of disaster management which must be DRRM centric, and it must clearly state the roles and functions of NGOs, civil society, and private sector so that bureaucracy will not be an obstacle but rather an enabler to humanitarian issues
- Government should introduce the 'NGO Mobilization Guideline for Post-Disaster situation' to guide and streamline NGOs' interventions

Presentation 3 – Dr. Sushil Koirala, Chairperson, Association of I/NGOs

Dr. Koirala congratulated NRA for this tremendous success and presented a brief overview of support from I/NGOs in the reconstruction process.

Progress under leadership of NRA:

- Marvelous progress made - more than 85% success in housing reconstruction - NRA played major enabler role working with development and humanitarian partners
- Some remaining work still to be completed: who are left behind - NRA has prioritized most vulnerable with support from INGOs & NGOs
- NRA substantiated true collaboration and partnership between NRA and INGOs & NGOs: NRA had special project approval authority and well-established project tracking and monitoring mechanism
- NRA set an example as the authority: to lead policy making and implementation with support from other ministries but guided directly: led



the efficient, fast, and coordinated recovery and reconstruction process

Key Lessons and Successes:

- Flexible support: from Socio-technical assistance to Material, Labor, Transportation, Cash support to most vulnerable were tailored to achieve overall goal of the reconstruction program
- Involvement of INGO & NGO communities in Post Disaster Need Assessment and development of Post Disaster Recovery Framework: strengthened the collaboration, where other government programs lacked multi-stakeholder consultation; INGOs & NGOs were expected to contribute to it which lacked interest and ownership
- NRA having NGO section and HRRP to coordinate with INGOs & NGOs bridged the gap and efficient collaboration was possible
- INGO & NGOs mobilization guidelines
- Documentation of lessons learned together with partners

Recommendations for the future:

- Joint emergency response and recovery strategy and plan led by government in partnership with INGOs, NGOs and Civil Society Organizations
- Government appeal and plan for multi-year project from response to recovery (this will enable us to look for multi-year project to support continuity)
- INGOs & NGOs focus to support most vulnerable from the very start of response and recovery process to ensure no one is left behind

- Localization of response and recovery where Local Government (with more capacity) should lead the recovery works
- Special project approval mechanism/Fast Track System for emergency response and disaster recovery and reconstruction, under technical leadership of NDRRMA and flexibility from SWC

Commitment on future involvement from I/NGOs:

- Government to have multi-stakeholder consultation and involvement in National Disaster Strategic Plan of Action
- Joint involvement and consultation in policy making and clear strategy and processes to provide support in emergency response and recovery process
- Appeal INGOs & NGOs to jointly work on preparedness and set up the approval process to channel all types of funding for localized response and recovery
- Support government in Nepal Disaster Resilient Framework with equal contribution and representation from I/NGOs

Panelists:

Mr. Tuk Lal Adhikari, President, Society of Consulting Architectural and Engineering Firms, Nepal (SCAEF)

On behalf of the consulting community, Mr. President congratulated NRA for the successful reconstruction program. During the process SCEAF have successfully provided consulting expertise to the community and collaborated with NRA from the beginning of



the Gorkha Earthquake to support response and recovery work. He marked the training of more than 2,000 engineers and architects. This trained Manpower was very important for the success of the reconstruction mission, and this developed precious knowledge to be retained and used for the resilience effort. On behalf of the consulting group, we must learn something more, based on this experience. Knowledge and lessons should be transferred by identifying the stakeholders and defining clear roles and responsibilities for future reconstruction processes. He asked how NRA can retain trained engineers and architects for future disaster response and recovery work.

Mr. Ang Dorje Lama, Vice president, Contractor Association of Nepal

The Vice President conveyed sincere thanks to NRA for conducting the international conference, and for giving FCAN an opportunity to speak. In a global comparison, Nepal ranks 4th in terms of climate risk according to the Global Climate Risk Index. Also, the country ranks 11th in terms of global risk for earthquake occurrence and impact. The country is in the top 20 of all the multi-hazard countries in the world. Nepal is prone to earthquake, and it lies in the active seismic zone V. All are aware that 2015 Gorkha Earthquake and its aftershocks with the epicenters in Gorkha, Dhading and Sindhupalchowk districts had significant impact in terms of loss of lives and properties. However, the preparedness level as an industry was very low.

Examples of lack of preparedness:

- a. Policy clarity on communication and coordination among concerned parties has been

a major issue. Some contractors allowed their earth moving equipment, cranes and necessary tools and equipment to be used without knowing how they are going to get paid

- b. There were issues with PPA and PPR. They are still under review. In addition, the newly established NRA had to operate without the leadership for months
- c. Capacity of Implementing Agencies to deliver projects has always been weak
- d. Significant number of additional skilled labor and managerial staff were needed to carry out reconstruction activities. We were already in short supply of skilled human resources prior to the event
- e. Material shortage as the reconstruction commenced – especially natural raw materials as quarrying has always been a problem in the past
- f. Unavailability of demolition equipment and expertise, recycling, and disposal. Still do not have guidelines and specifications regarding demolition and recycling
- g. Design and monitoring compliance has been a big challenge
- h. Access to finance for construction entrepreneurs to manage increase in work volume

During these reconstruction years, industry took several good initiatives:

- a. Introduction of innovative construction materials and techniques
- b. Retrofitting and re-strengthening techniques



were further strengthened in construction

- c. Historical heritage was highly affected by the earthquake; realized the importance of saving heritage by preserving its cultural significance and its structure

Going forward:

- a. Role of industry is more crucial especially at the time of crisis. Despite all odds, all the stakeholders could come together to deliver
- b. Even more crucial at the micro level is the dedication and contribution of project teams and their resilience, without which broader national objectives and targets won't be met. This will prove to be a great platform to share the achievements, challenges faced, and lessons learned by NRA along with its stakeholders. Lessons learnt need to be well reflected and internalized in our regulations, codes, standards, specifications, and implementation mechanisms so that we will be able to build resilient and sustainable infrastructure in the days ahead

Ms. Sharmila Karki, NRA Advisory Council

Ms. Karki shared the NRA experience and story from the beginning of the reconstruction process. She expressed that the Advisory Council was satisfied with NRA success so far. The NRA has not only built the houses but went down to each of the people and contributed to peace for the affected people.

Despite many challenges, the resettlement program didn't go well; communities are reluctant to shift from the original places where they have their feelings and hearts. We cannot totally separate houses and communities from the hazards, in these three tiers of

the structure, disaster and climate change response and preparedness must be linked together; there is no climate justice without gender justice. We haven't been successful in implementing the gender inclusive recovery and reconstruction process: this must be learned and improved in future disaster response and recovery.

Ms. Sharmila Karki, NRA Advisory Council

Big congratulations to NRA and people of Nepal for the successful reconstruction as representing the housing focus organization; Habitat for Humanity is honored to be part of the largest housing reconstruction program. One success from habitat's perspective, seen and echoed throughout the reconstruction, was the socio-technical advice and support that was delivered to families along with reconstruction grants. That was carried with the community and embedded with the local authorities. Having engineers and socio-workers go out there, to support the most vulnerable, with financial, legal, and other processes, has been a very important strength of this process.

Challenges: She highlighted the financing side had more challenges and constraints as the vulnerable people were struggling to access the finance and build their houses as the government grant alone was not enough. The housing reconstruction is too costly, and those families who didn't have access to finance have not completed or got stuck in the reconstruction process.

Suggestions for future:

1. Could include financial education, education and advise more on the full costs involved



2. Failed to build linkages with the micro finances; recommended for future events
3. Women-headed households have challenges in the grant process, so often the property was not registered in their names. Joint land titling, with women and men for poverty reduction makes sense and addresses many aspects in parallel (inclusion, equity, gender, LNOB etc.)

Mr. Mahendra Bahadur Chitrakar. President Federation of Nepal Brick Industries

Out of 800,000, 90% of houses constructed shall be marked as a very big achievement. Mr. Chitrakar thanked and congratulated NRA and people of Nepal. Being brick entrepreneurs, the first call for the government for the reconstruction in 2015 was 12 billion-15 billion bricks to be produced during the reconstruction process. The brick production was prioritized to raise the production by 2 times, but reconstruction couldn't happen for two years. Along with COVID-19, the production is now at risk, and this is a sad ending.

With focus on Kathmandu, many other urban areas are yet still to be reconstructed. 50% reconstruction haven't started. The NRA has prioritized schools and Temples being constructed at a fast pace, but households are still struggling to reconstruct. Looking at the political situation and very different challenges, I request for the future that there should be perfect information made available to support enterprises, with budgets established to support enterprises in the response and reconstruction process.

Mr. Dhurba Thapa, President, Cement Manufacturers Association of Nepal, Ex-President of Nepal Engineers Association

Mr. Thapa congratulated the NRA and all the concerned agencies for successful reconstruction. He expressed that more focus and partnership with the private sector could have made the process more successful.

He expressed that we couldn't preserve the tradition and cultural aspects of the built architecture. We could provide more vernacular architecture friendly type designs in joint coordination and collaboration with concerned authorities.

Objectives of the reconstruction program by NRA was: 1) to provide technology, and 2) to provide financial support. As for technology, we could have provided a variety of designs. Another lacking is the relocation and resettlement. We could have put more effort in providing more people friendly designs and construction techniques to contribute to building back better.

Mr. Manindra Malla, Program Lead, Caritas Nepal

Mr. Malla congratulated earthquake affected communities, development partners and leadership of NRA. This is the first time such large campaigns have been done in Nepal. We acknowledge that we have jointly wrapped up the lessons learned. Intensive STA was delivered by I/NGOs to support households to access government grant and to build earthquake resilient homes. NDRRMA and local government should be prepared and should have some mechanism to provide STA more extensively for remaining and future construction. May of 2018,



community members of Orang village were dancing to be first village to reconstruct to 100% with support from Caritas Nepal. The lesson learned was that with support from I/NGOs and local government we can improve owner driven approaches by social mobilization innovations, forming various sectoral user groups, implementing projects led by locally trained, social mobilizers, and having projects designed by putting vulnerable groups at the center while linking with forestry and other user groups.

The development partners have a lot to offer, and this must be reflected in the National Disaster Resilient Framework. There must be a series of consultations on how we achieve what we propose together in a realistic manner. NDRRMA can strengthen the local government to ensure I/NGOs partnership can be promoted for disaster recovery and reconstruction. HRRP's new role can be taken forward with NDRRMA at national, provincial, and local levels, together with partner organizations, to support national disaster strategic plan of action and provide significant contribution to National Disaster Resilient Framework. We can group things like vulnerability assessment, information management and capacity development opportunities, to promote holistic recovery rather than individual sectoral recovery.

Closing remarks by the Session Chair, Dr. Bishnu Bahadur Bhandari, Executive Member, NRA

The process of reconstruction and recovery couldn't be possible without support from the partner organizations. Many I/NGOs were there in the field before the NRA. NGOs were deployed earlier, and suggestions from I/NGOs were very helpful to make the process more productive. They were the means

and close contact between the beneficiaries that gave valuable and precious advice to the NRA. I/NGOs brought money (how difficult that is), and while working have empowered 300-400 grass root organizations, developed their capacities, and got them thinking in innovative ways.

It was too difficult to cover all 32 districts at once, yet within the prioritized 14 districts things were overcrowded. NGOs were requested to go to the least affected 18 districts, but money was already pledged for the priority 14 districts, making that a challenge.

NRA were specific with the vulnerable, identifying beneficiaries with the ownership of land, alongside their criteria: nursing mother, widow, PWDs and Elderly headed households.

NGO were the ones to support, and to reach out to households where the government cannot reach. From the beneficiary's perspective, after the disaster the NRA prioritized shelter and provided this with support from I/NGOs.

NRA tried for SMART partnership, collaboration, and based on I/NGOs mobilization guidelines, there was transparency and accountability to promote partnership with local authorities, applying a process of social and public audits to strengthen the line of trust.

There were NGOs supporting the NRA in dealing with the issues of landlessness.

Urban Recovery was and is a complex and tough issue. Here the NRA couldn't reach the goals. There is multi ownership and small land parcels; likewise for our cultural heritage: these are partly neglected areas.



There are some good examples from NGOs who supported activities around gender violence but not on a large scale; we were only constructing houses, not villages.

Regarding institutional memory, only Brahma Shumsher's documents are evidence held pre-2015. Documentation was part of our challenges, but this we have significantly and globally overcome.

Finally, NGOs receive money for fixed periods that do not always continue. However, building on what has been accomplished, and for the continuity of

this work, NDRRMA will be able to pick up what we have done. The biggest stakeholders are Local Governments that need capacities. 4,000 engineers were hired and trained, and this has never occurred before in history; there should be a clear plan to capture and institutionalize all this learning.

74,000 home-based industries were closed due to the earthquake, and whilst some have risen, we must now think for the full social and economic recovery of Nepal which will certainly still take a very long time.



Questions and Answers:

Dr. Narayan Marasini, NSET

Questions:

- a. Regarding Private sector and I/NGOs involvement, we have some gaps in presence of I/NGOs in the urban area or district headquarters, as we all want to go to easy areas to work. How to engage partner organizations in the more complex areas?
- b. Continuation of cluster approach has its pitfalls, except shelter, other sectors were not together for the reconstruction, and we lost opportunities, similarly for health and education
- c. Without engagement of people, and transferring knowledge, we miss opportunity in other sectors
- d. As regards cross learning and experience sharing within the country, can I/NGOs facilitate this beyond the earthquake affected?
- e. Private Sector: How can we ensure efficient engagement of the private sector to support effective supply chains?

Ms. Maggie Stephenson

Do you think NGOs have a better understanding of Government, or do Government have a better understanding of NGOs, at each level?

Response from Dr. Sushil Koirala

Now with the local government being active, we are working more closely with the local government and NGOs. I think there will always remain gaps in perceptions, but we will have to keep working together to narrow down the gap and influence positive partnership.



ROUND TABLE DISCUSSION 5: RECONSTRUCTION THROUGH A POLITICAL LENS

Chair: Mr. Dhruva P. Sharma, Executive Committee Member, NRA

Moderator: Mr. Deepak Raj Joshi

Session Coordinator & Rapporteur: Mr. Ram Saran Sapkota, PD, CLPIU – Education

Remarks:

Disaster informed communication has reached to many levels of development arenas. When plans are properly designed with adequate focus on preparedness and disaster management can be achieved.

Paper Presentation 1 – Dr. Ganga Lal Tuladhar, Former MP, and Disaster Expert

Key summary of the presentation:

- BBB model was applied massively to achieve objectives of attaining reconstruction of quake damaged infrastructures
- Encouraged private sector engagement to uplift socio-economic activities
- Sendai framework of action motivated to form NRA in which all concerned political parties came together during Constitution was being made and soon after its endorsement
- Similarly, all concerned political parties joined hands with common voice of reducing the disaster, reducing its effects and make resilient Nepal
- Disaster Management topic was highly prioritized in the Constitution for the first time
- Every political party in their manifesto highly emphasized Nepal reconstruction
- Disaster management fund was established in all local units
- Various relevant manuals and guidelines related to Nepal reconstruction were formulated, oriented to the local bodies, and implemented
- Large number of masons from local and community level were trained through skilled based training, similarly with recruitment and training of technical staff having engineering background
- Various committees were formed from Ward to



District level, Provincial and Municipal level

- Emergency Operation Centers are in operation at all four levels of government
- Knowledge bank transfer of Nepal reconstruction is undergoing to NDRRMA as NRA's main successor

Paper Presentation 1 – Dr. Ganga Lal Tuladhar, Former MP, and Disaster Expert

Key summary of the presentation:

- Within Madesh unrest, political instability, and lack of elected local members, NRA was established.
- NRA developed systematic work programs and proceedings to achieve its objectives from its inception
- Political instability and challenges of leadership change in NRA led to delays in dissemination of guidelines and procedures to beneficiaries and newly elected representatives
- Advisory Council was formed under strong Leadership of Prime Minister of Nepal along with Opposition Leader and Political Parties
- Various committees were formed by delegating powers of executive committees of NRA – steering committee, executive committee, district coordination committee, district facilitation committee, parliament committee that gave direction to make decisions related to reconstruction processes (such as decisions on grievances, displacement, relocation etc.)
- Hybrid type of organization performed well in

which NRA mandated Sunset Law and prepared for knowledge bank transfer to its successor (MoUD, NDRRMA, DUDBC, etc.)

- Presence of elected local bodies made the herculean task of NRA possible
- Good Governance principles were followed - such as the Beneficiary identification Process, Transparent Banking System, Rule of Law, Due process of Law, Communication, Grievance Handling, Putting People First etc.
- Committed, Ethical, Impartial and Professional Leadership in NRA imparted lessons of stability and enduring support from political parties too

Community participation with focus on leave no one behind model was massively applied and continues to be applied.

Commentators:

Mr. Parasar Sapkota, Ward Chairperson, Ward no8, Sudal, Changunarayan Municipality, Bhaktapur district

- The results of local elections provided way forward for the decision-making initiatives in housing reconstruction
- During the Oath Taking ceremony of local elected heads in my municipality, we provided land certificates to landless people by assessing their situations deeply. That was the primary decision that drove many beneficiaries to conduct housing reconstruction
- Ward members were mobilized to observe and assess the situation of landless and vulnerable



beneficiaries at large

- Various land issues existed in my municipality, so Municipal Board Council jointly unpacked many unsolved issues of land that led to reconstruction of houses by nearly 500 beneficiaries

Mr. Narayan GC, Chairperson, Ribdikot Rural Municipality, Palpa district

- Beneficiaries that resided in geo-hazard areas were relocated by making appropriate decisions from the Rural Municipality Board
- School reconstruction was given priority
- Financial resources and human resources and their proper monitoring must be conducted from district level
- Local parties had to be jointly involved in monitoring of the results of reconstruction activities
- Local participation and motivation had to be increased so that ownership internalization would increase

Mr. Surya Narayan Shrestha, Executive Director, NSET

- In early phases of NRA, there was not much support from political parties and from public
- Series of lobbying and advocacy activities were forwarded by NRA to political parties and elected heads to achieve the mandated program of NRA
- The lessons learnt overall from NRA's reconstruction intervention are many, and they need to be documented, internalized, and

continued

- Support from political parties is required to address outstanding issues in the disaster management sector

Remarks from Chair, Mr. Dhruba P. Sharma

- The accumulation of key inputs provided from the commentators and participant will be documented in the proceeding report of ICNR
- Support from elected local bodies is huge and is commendable
- Knowledge transfer should be continued, and should go from implementing at provincial to local level

Orientation of manuals and techniques need to be done at local level to frontliners and elected bodies.



ROUND TABLE DISCUSSION 6: MOVING TOWARDS RESILIENCE: ENSURING RESILIENCE FOR SOCIAL INFRASTRUCTURES AND PUBLIC BUILDINGS

Chair: Mr. Faris Hadad-Zervos, Country Director, WB

Moderator: Mr. Anil Chitrakar

Session Coordinator & Rapporteur: Ms. Anita Niraula, JS, NDRRMA

**Setting Context: Mr. Kamran Akbar, WB
Paper Presenter: Mr. Anil Pokhrel, ED,
NDRRMA**

Focus of Presentation/key takeaways:

The major findings of Structural Integrity and Damage Assessment (SIDA) reveal that casualties at schools would have been massive, had the classes been in session on April 25, 2015. Out of 5,760 public schools comprising 17,618 buildings surveyed, 3,599 buildings were found to have completely collapsed. The number of rooms in the completely collapsed school buildings were 12,568, out of which 9,313 were classrooms. The number of students enrolled in the collapsed classrooms were 184,778. This prompts an urgent need to assess the educational, health and other public infrastructure nationwide and take timely corrective actions to avoid the human casualties from future disasters.

Why nationwide Structural Integrity Assessment?

Kasthamandap is a 7th century monument which collapsed in the 2015 earthquake. Self-motivated locals' campaigns emphasize and prioritize the rebuilding of Kasthamandap. Ethnographic research direct observations included:

- Our social, public, and critical infrastructure are exposed to not only earthquakes but also other multiple hazards such as floods, landslides, lightning, structural failure etc. When these risks are compounded with the difficult terrain/location, that makes it extremely difficult to respond in the immediate aftermath of disasters. Understanding the extent of risks our infrastructure is exposed to, is critically important.



- Public buildings play a crucial role in community resilience by providing emergency response, essential services and shelters and continuity in basic service delivery.
- As understanding risk is the first step towards mitigating them, Structural Integrity Assessment is one such attempt that will not only help in understanding risk but also in identifying interventions to mitigate the risks and in informing the concerned local, provincial, and federal governments to prioritize investment and intervention.
- Apart from structural vulnerability the assessment will also include vulnerabilities of infrastructure to multi-hazards, state of utilities such as water, sanitation and hygiene facilities, electricity, telecommunications, accessibility to persons with disabilities, drainage system, availability of open spaces, disaster preparedness plan and whether students are aware of the disaster risks and regular drills and simulations are practiced and if the facility can serve as emergency shelters among others.
- The assessment will collect information on structural and non-structural vulnerabilities, will recommend interventions such as repair, retrofit, reconstruction or relocation, based on those identified vulnerabilities and indicative cost of undertaking suggested intervention based on market price of local construction material. The assessment will also inform policy interventions and operational modalities to ensure resilient infrastructure.
- The information collected from the exercise will

create a data pyramid that will be instrumental in informing concerned government entities to take informed decisions and prioritize their efforts to make these critical infrastructures resilient to multiple hazards.

- The SIA will take 2 years to complete and the NDRRMA will need to join forces with all development partners and local governments to take the prioritized interventions, recommended by the assessment, forward towards more resilient and safer social infrastructure and public buildings.

Closing remarks by session chair, Mr. Faris Hadad-Zervos, Country Director, WB

Overall, the roundtable discussion developed a common consensus that the SIA is an important intervention to understand risk and will eventually lead to resilience of social infrastructure and public buildings.

An integrated problem, such as disaster and climate risk, requires an integrated solution and the onus is on the NDRRMA.



Q A

Questions and Answers:

Q1. Will the assessment include geo-hazard risks?

Q2. SIDA information was instrumental in identifying schools for Asian Development Bank (ADB) financed school reconstruction project. ADB's due diligence interventions further validated SIDA's assessment and recommendations.

Q3. Newly reconstructed schools still have older structures not affected by the 2015 earthquake, resulting in residual risk, which means the assessment should include schools in earthquake affected areas.

Q4. Risk-sensitive land use planning is critical for municipal governments to decide where to build the social and public infrastructure. General tendency is to build social and public infrastructure, where the land is available or more economical.

Q5. Post-earthquake, whereas geo-hazard assessment was carried out for vulnerable settlements, such assessment was not carried out for other social, public, productive and critical infrastructure.

Q6. Development and enforcement of location

and building typology specific building codes is imperative not only to ensure seismic resilience but also resilience towards multiple hazards.

Q7. In Nepal, many settlements are built on old landslides. Some landslides open new water sources attracting many settlements nearby them, ultimately putting the communities at risk.

Q8. SIA is recommended to collect information on how waste is managed by schools and health facilities as it has both environmental and health consequences.

Q9. SIA is recommended to also include information on condition of access road to the facilities assessed.

Q10. SIA should include the state of equipment in the hospitals as those will be critical in saving lives after disasters.

Q11. Out of 302 hazards identified by the UNDRR, how many hazards Nepal is exposed to is unknown. It is critically important to understand the number of and type of hazards Nepal is exposed towards.

Q12. The Department of survey has done a tremendous amount of work in land use classification and cadastral mapping that could be helpful for SIA.



Q13.Land use classification and zoning are critical to ensure resilience of infrastructure.

Q14.Nepal's topographic variations lead to differentiated vulnerabilities and thus require differentiated solutions.

Q15.SIA should include private schools and hospitals on rented buildings, as they pose risk to lives.

Q16.An assessment of buildings retrofitted right before the 2015 earthquake to understand how these structures behaved in the earthquake will inform future course of action.

Answers/Response:

- System and process developed in past years, qualified human resources produced, tried, and tested retrofitting techniques and reconstruction technologies will contribute towards future resilience of our infrastructure.
- Cost of not acting is higher than the cost of acting. Hence, NDRRMA's role will be to bring multiple stakeholders together for SIA and for investing to ensure resilience of assessed infrastructure afterwards.
- NDRRMA will constitute a multi-agency task force including institutions at federal and local level.



ROUND TABLE DISCUSSION 7: ROLE OF COMMUNICATION & MEDIA IN RECONSTRUCTION

Chair: Dr. Nima Nanda Rijal, SC Member, NRA

Moderator: Mr. Binod Bhattarai

Session Coordinator & Rapporteur: Mr. Ram Krishna Aryal, US, NRA

Mr. Rijal, the chair of the session, in his opening remarks said that in the first year of NRA, it had to prepare legal and policy documents and coordinate with donors, so the physical progress was delayed. During the earthquake and rescue and recovery stage, the media informed people and the public. Media played three roles: in the initial year's media criticized the NRA; during the halfway stage of reconstruction the media made constructive criticism, and at the later years of reconstruction the media expressed appreciation of the works of the NRA. In this way the media was always watching the NRA and influencing and being influenced by the NRA.

Discussion paper presenter: Mr. Manohar Ghimire, Under Secretary, NRA

Background:

Mr. Ghimire recalled the damage and loss caused by the earthquake and said from the NRA there was high public expectation. But it was not possible

to immediately bring people to new houses from temporary shelters. Progress was very slow in the initial years. Because of this, the media was very critical of the NRA. Six years later, as the NRA accomplished most of the reconstruction targets, the media became very positive towards the NRA. We had PDNA, PDRF and the National Reconstruction and Recovery Policy, 2015, which also highlighted the importance of communication. NRA also developed its Communication and Outreach Strategy 2017-20 to better communicate with affected people and the public.

Communication Challenges:

In the initial years, there was a slow pace. NRA was established 9 months after the earthquake. There were problems with communication at that time. The NRA could not properly communicate to the Media about its support policies, delivery mechanisms and the housing standards for reconstruction.



There was miscommunication because of which people suffered. There were resource constraints for media mobilization. The NRA did not give official attention to the media. System and process was not set up for communication. On operational fronts, multiple talking heads communicated conflicting messages. There was poor coordination between different agencies. There was no standardization of messaging, or communication products. The NRA could not prepare a proper mix of communication channels and approaches.

Approach/Actions for Better Communication:

At later stages, NRA addressed communication problems in the following ways:

1. Communication Strategy was prepared
2. Assignment of NRA Executive Member of NRA to oversee communication
3. Stakeholder engagement / consultations was encouraged
4. Engagement of professional journalists, and orientation of local elected representatives
5. Consistent messaging approach was followed

Actions for better Communication:

1. We focused on engagement of all relevant stakeholders
2. We established dedicated communication & media relations team
3. Provision of spokesperson and joint spokesperson was made
4. Committee was formed to standardize

communication products

5. Proactive communication (Website, press releases, press meets) was initiated
6. Interactions / Workshops / Public hearings / Training on Policy & Guidelines were conducted
7. International exposure through conferences, webinars, seminars were organized to inform international community
8. Use of both legacy & new media, including social media platforms

Communication Products:

The NRA produced several posters, pamphlets, and flyers. Newsletters, bulletins, brochures, and e-newsletters were published periodically. Infographics, radio and television programs, interviews, radio jingles were prepared and communicated. TV, commercial social media: Twitter, Facebook, and YouTube were used. Community hearings and a toll-free helpline were also set up and managed. The NRA official website was regularly updated.

Conclusions:

1. Have a clear communication strategy and action plan at very early stage
2. Mobilize / allocate adequate resources for communication
3. Mix of channels and media should be utilized. Decision makers should provide orientation of media handling. NRA should review outreach & adjust as necessary



4. Orientate and train decision-makers on communication at all levels, including community leaders

Commentators:

Ms. Radha Chalise, Senior Correspondent, Gorkhapatra

From the day of the earthquake, we started reporting on the earthquake. We did not know the difference between earthquakes and after -shocks. Media gradually learned about search and rescue, rehabilitation and recovery and reconstruction. Around 0.1 million trained manpower were prepared, among them women. Because of the media reports, international support came to Nepal for rescue and rehabilitation. Public media was more active in the initial days of the earthquake. Nepali media started disaster coverage. Media expertise should be maintained. NDRRMA should have a media promotion unit. The critical comments of the media pressured the NRA to actively engage.

Mr. Ujjawal Prajapati, Media Researcher

He recalled the first day he joined the NRA in December 2015. Media was more engaged with disaster response than in reconstruction. Media was not always critical. By day 17, news coverage was about the NRA. NRA was top priority news. Media published stories about the NRA. First three months after the appointment of the NRA CEO was very critical. When government staff were reluctant to be transferred to the NRA, the media helped to change that situation. When the communication team worked in NRA, and progress was made, the media became very positive. Until reconstruction is fully completed, the media should remain watchful.

Mr. Rewati Sapkota, Communication Registrar, Bagmati Province

When the earthquake occurred, as a reporter, he went to the affected areas and reported the pains of the voiceless. The government did not allocate a budget for training of journalists. It is a wrong approach to give money to a journalist for writing positive stories. This does not support a positive reputation.

Mr. Bipul, President of Federation Journalist Association

Media should fulfill their own responsibilities. At the time of earthquake reconstruction, the media were self- motivated. Media worked to give the right message to the population. Media encouraged the distribution of relief materials. Relief providers got media coverage. Critical news helped to activate NRA in its function. Nepal's media was really tested at the time of the earthquake and the Covid pandemic. Media always writes in favor of marginalized and voiceless people. Nepali media joined the mega campaign of reconstruction.

Mr. Bishmakumar Bhusal, Joint Secretary, Ministry of Home Affairs (MoHA)

In the initial days, we trained the front-line reporters of 14 districts about the constraints of NRA and how optimistic news about reconstruction can be disseminated. We shared our difficulties with the media to publicize them. We always positively took the suggestions of and to the media about the reform agenda. NRA spokesman handled media very well. NRA had very excellent media team which brought several publications. Integrity is important in communication. Communication strategy is important for all government entities. Media should support NDRRMA too.



Er. Kishor Thapa, Member of the Advisory Council, NRA

Media must play a critical role. We had some serious communication lapses. We had lapses in the case of communicating sample designs of houses to affected people. A second lapse was in the case of grants, and the third lapse was related to the use of salvage material in reconstruction. Reconstruction is product oriented. We have just focused on reconstruction but not rehabilitation and recovery. So, he urged the media to focus on the issues of recovery and rehabilitation.

Mr. Kamal Sigdel, UNDP Nepal

We focused only on communication, but we should also plan for knowledge management.

Mr. Ram Krishna Sharma

A takeaway about communication efforts is that interpersonal communication is as effective as Mass media and new media. Text messaging to local leaders and local radio programmes are more effective.

Mr. Khadga Sen Oli

Communication or media activity should be an integral part of the reconstruction process. There should be consistency and clarity in communicating news and messages. Resources should be made available for communication products. There should be a dissemination plan for communication products.

Mr. Cosmos Bishwakarma, Communication Consultant

There is a difference in the perspective from media and perception of media. So, the media should talk to the people before they form their perspective. Media should bring stories related to disasters, climate change and others.

Chair Mr. Rijal shared his observation: Nepal should be earthquake resilient. Media should give the real picture. Modern technology should be used to strengthen traditional housing structures. Media should be critical, but a pathfinder as well as a motivator. This is or should be an internal attribute of the media. Building codes should be disseminated to all municipalities. We must make this knowledge available for research purposes.



CLOSING CEREMONY

Ms. Shivani Thapa, MC ICNR

Ms. Shivani Thapa opened the closing ceremony, warmly welcoming high dignitaries, representatives of Nepal's development partners, participants, and friends, and requesting them to take seats. She welcomed upon their arrival, and requested to take seats on the stage, the Chair of the closing ceremony – CEO of NRA, Mr. Sushil Gyewali, the Special Guest – Hon. Minister for Foreign Affairs, Dr. Narayan Khadka, the hon. minister for General Administration and Federal Affairs, Mr. Rajendra Shrestha, the Special Guest, Former Deputy Prime Minister and Vice Chairperson of UML, Mr. Bishnu Paudel, and finally, the Chief Guest - The Right Honourable Prime Minister, Mr. Sher Bahadur Deuba. With these very important dignitaries in place, and following the National Anthem of Nepal, Ms. Shivani Thapa opened the closing ceremony.

Dr. Chandra Bahadur Shrestha, Executive Committee Member and ICNR Convenor, NRA

Participants from around the world and from Nepal came together on 7-9 December 2021, to attend the International Conference on Nepal's Reconstruction 2021 (ICNR-2021).

The Conference, organized by the National Reconstruction Authority of Nepal (NRA) and chaired by the Honorable Foreign Minister of Nepal, Dr. Narayan Khadka, was inaugurated by The Right Hon President of Nepal Ms. Bidya Devi Bhandari. All high-level Development Partners involved in the

reconstruction sector including bilateral agencies: India, China, USA, UK, EU, Japan, Canada, Switzerland, Norway, and multilateral agencies including World Bank, ADB, and UN Agencies also participated.

Understanding the high levels of multi-hazard risk in Nepal.

Acknowledging the political consensus in reconstruction, National Reconstruction Authority's leadership with proactive support from the Development Partners and moreover strong dedication demonstrated by the affected households and communities behind the successful implementation of the post-earthquake reconstruction and recovery.

Reflecting the spirit of the Sendai Framework for Disaster Risk Reduction, committing to Build Back Better to strengthen national resilience in the face of the inevitable multi-hazard disaster risks that are confronting and will continue to confront Nepal.

Appreciating the citizen's participation in disaster preparedness, rescue and relief operations, and the post-disaster reconstruction and recovery with a special focus on marginalized and vulnerable populations.

Considering the proven track record of the Owner Driven Housing Reconstruction Approach with public support in all technical aspects, and strict adherence to the earthquake resistant construction technologies.



Streamlining and empowering the federal and sub-national governments for ensuring housing standards through technical and social handholding of the affected populations.

Valuing the significance of research and innovation in resilient post-disaster reconstruction and development.

Mindful of enhancing national capacity in the heritage sector.

Emphasizing the urgency for bolstering disaster management and authority in legal, institutional, and financial terms.

Accentuating the Development Partners' commitment for collaborative resilient development.

The ICNR agrees to the declaration and relevant stakeholders commit to the following:

- Strengthening local governments in planning, technological and managerial terms.
- Promotion of appropriate technology and human resource capacities for the conservation of heritage monuments and sites.
- Strategic intervention for urban regeneration in the local government's leadership with federal government's technical handholding.
- Linking up reconstruction with livelihood initiatives.
- Further enhancing functional relationships between federal, provincial, and local governments.
- Informing the construction of public building

and infrastructure with disaster resilient technologies and scaling up replication of the lessons learned of reconstruction and recovery retrofitting technology nationwide, both in private and public sectors.

- Endowing the national apex institution – the National Disaster Risk Reduction and Management Authority – with clear mandate, and governance structure with considerable authority, autonomy, and financing for building disaster resilience.

With these remarks, Dr. Chandra ended the ICNR 2021 Declaration followed by closing remarks from various dignitaries.

Mr. Ashok Byanju, Chairperson, MuAN

It's a great honor for me to represent and talk on behalf of 753 municipalities of Nepal. It's a matter of great pleasure to acknowledge that NRA was established to create and accomplished a landmark achievement in Nepal's reconstruction after the Gorkha Earthquake. I thank the Government of Nepal and Development Partners also for this achievement. Whilst NRA's success is evident, we also need to sustain the achievements, also at the grass root level, where the role of Local Government is both vital and crucial. For this purpose, disaster risk reduction and community engagement mechanisms are crucial for preparing for future disasters. Despite the COVID-19 pandemic, the interventions continued.

Yet there are multi-hazards – including those induced by climate change, coming in Nepal's direction, for which the Local Government must be prepared as a front-line responder. Joint political leaders came up with and promoted the role of Local Government



for communal support, and to play a key role in the reconstruction works. However, I would like to request that all three tiers of government need to play important roles in coordination and collaboration to address future disasters. MuAN has also established a DRRM Unit supported by several development partners, that can be part of future structures and bodies addressing natural disasters in Nepal. We will endeavor to share all the best practices and lessons learned with our regional body the UCLG.

Finally, former Prime Ministers of Nepal and current Prime Minister deserve equal gratitude for their support in the achievements as the result of joint political support. We hope that political support would continue in mobilizing technical and financial resources, geared towards the sustainable, resilient, and prosperous development of Nepal.

Mr. Arnaud Cauchois, Country Director, Nepal Resident Mission, ADB

Mr. Cauchois expressed pleasure to be with everyone in the event that marks, almost, the end of the reconstruction programme following the earthquake of 2015. He believed that this conference brings the end of an arduous journey, but also one of hope and resilience shown by the national and international community. He stated that we should not forget that such disasters can hit Nepal again. This conference gives a moment to pause and reflect. Nepal has set an example of how a country can become more resilient through lessons learned and experiences gained; Nepal is now a role model for other countries affected by natural disasters. Despite challenges, the commitment and dedication shown by the Government of Nepal and NRA, truly made a difference. This deserves appreciation and

recognition.

This conference, firstly, gave opportunity for sharing expert knowledge, and secondly provided a platform where many good practices and lessons have been shared, providing a better understanding of the do's and don'ts of post-disaster recovery and reconstruction. However, one important lesson for the future is that cultural heritage should be at the heart of building back better. We must preserve rural houses and heritage for the future, and for the future of Nepal's tourism, livelihoods, and local economies. NRA is in its final stage, with all its knowledge and experience now hopefully finding a new house in NDRRMA, that needs to be empowered and responsible for future reconstruction oversight. ADB will stand and support this institution and Nepal at all levels of government.

Mr. Cauchois reiterated his congratulations again for organizing this timely and important conference, and for successfully almost completing the reconstruction process. He affirmed that ADB will continue to support the Government of Nepal and its people and will be working together with the NDRRMA and strengthening the green resilient and inclusive development agenda of Nepal.

Mr. Hartwig Schafer, Regional Vice President, South Asia

Mr. Schafer expressed his honor to be part of the ICNR 2021 conference. He congratulated the Government of Nepal and NRA for organizing this event that spotlighted the enormous achievements in the reconstruction programme after the 2015 earthquake, as well as for theirs and all development partners significant and sustained accomplishments



in the reconstruction effort itself, despite the COVID-19 pandemic. Because of this, more than 90% of private houses have been rebuilt in a safer and more resilient manner.

The World Bank is proud to have supported and will continue to support the Government of Nepal with technical and financial assistance through IDA and the MDTF. USD 700 million of grants for private housing reconstruction was provided through IDA, providing job opportunities for women masons, and socio-technical assistance in the process, including for people with disabilities, to ensure that no one was left behind.

In the past six years Nepal has gained a wealth of knowledge and experience, and the World Bank is pleased to partner with the Government of Nepal in organizing this conference to share those lessons and best practices with a global audience. In turn, this will inform Nepal's green, resilient and inclusive development pathway, to strategically address the twin challenges imposed by climate change and Covid-19.

The structural integrity assessment of social and public infrastructure, launched during the conference, will make an important contribution to Nepal's GRID pathway. Mr. Schafer wrapped with appreciation to the teams of organizers and NRA for putting this milestone event into practice, assuring that the World Bank will continue to partner with the Government of Nepal, and other development partners into the future of the country.

Ms. Kanni Wignaraja, Assistant Secretary General, UNDP

Today, six years after the 2015 earthquake, to which

the world responded, led by Nepal's government and its people, we look back at the excellent accomplishments, and strong efforts that were necessarily undertaken to achieve them. UNDP has been a trusted development partner to Nepal for more than 50 years. UNDP has worked with NRA during its tenure, and with funding from the Government of India, constructed 27,000 houses, and another 4,000 with EU funding. But this is not just about building homes, but hope. Recovery processes must be inclusive, especially for landless, disabled, vulnerable, and other marginalized groups. Empowerment comes from owner driven reconstruction and leads to development that is lasting. This equally applies to important cultural heritage. As we enter the next phase, UNDP will stay the course, supporting the people and government of Nepal in efforts towards resilience, and leaving no one, ever, behind.

Ms. Yumiko Asakuma, Chief Representative, JICA

Ms. Asakuma expressed condolences to the people of Nepal that lost lives and properties in the earthquake of 2015. She followed this with a heartfelt appreciation of the organization by NRA of this international conference, and for bringing all experts together for this event. Japan and Nepal have many commonalities – terrain, culture, and to some extent appearance. Unfortunately, Japan and Nepal also share many common hazards and disaster risks. Some Japanese experts that were victims of previous earthquakes in Japan came to support, bringing knowledge and experience to Nepal in the reconstruction process after their own earthquake.

Cooperation is a two-sided coin, and whilst Japan has been a strong partner to Nepal during these past



six years, it has also learned from Nepal about the Build Back Better approach. We have also learned a lot during the ICNR and will use this knowledge in our cooperation with Nepal and other countries, as well as at home in Japan. There is a proverb which says, "Natural Disasters occur when everyone forgets them"; we should always be mindful and prepared. 2022 will surely be a new pathway forward, aside from it being the year that Nepal and Japan celebrate 120 years of official friendship. Lastly, I would like to affirm that JICA will support Nepal as a partner in building disaster resilience for the future.

Mr. Ben Miller, Director India, and Indian Ocean Directorate, FCDO

Mr. Miller, on behalf of the UK government, thanked the organizers for the opportunity to speak at this event, and started by congratulating the government of Nepal and the NRA for successfully managing the recovery and reconstruction process following the 2015 earthquakes. The UK has worked closely with the NRA, partners and people affected by the disaster over the past years. Leaving No one Behind and building back better were the cornerstones of our engagement in building physical houses, but also institutions and partnerships, and strengthening local government capacities. Through collective efforts, we were able to reach over 1 million earthquake affected people, including addressing such complex issues such as landlessness and resettlement.

Recovery and reconstruction take time. We look forward to the remaining reconstruction endeavors being taken up by the NDRRMA, and the Mon. Urban Development, in close partnership with the local governments, to continuously ensure no one is left behind. The journey is not yet complete, and

momentum needs to be maintained. Even more investment will be necessary to ensure future resilience, with over 80% of Nepal's population at risk, not just from disasters, but from climate-related disasters. Mr. Miller went on to praise the ambitions laid out by the Nepal Government in the COP-26 in Glasgow, including the GRID agenda. This level of ambition has helped all of us in the undertakings. The UK will continue to partner with Nepal on these initiatives and look forward to supporting Nepal in its journey towards resilience.

Ms. Sepideh Keyvanshad, Nepal Mission Director, USAID

Ms. Keyvanshad opened by appreciating being here at the ICNR. She stated that remarks from many dignitaries since yesterday reveal that Nepal's reconstruction has achieved much deserving results. These reconstruction efforts have bestowed economic upliftment, with many local workers trained as masons, plenty of technical staff getting training and exposure, and many people at local level being empowered. For school going students who are back to newly reconstructed schools, the newly refreshed school environment is much more effective and has facilitated new learning energy and commitment. Health facilities have been reconstructed and provide better and more resilient facilities. Involved frontliners and communities from different walks of life have gained confidence to envision their future interests and take up livelihoods. All these cases are examples of the success of Nepal's reconstruction and have built on the strong foundation of cooperation between our two countries (Nepal and USA) for 75 years, that has focused on improving the lives of affected people. The rebuilding process has not just been of physical infrastructure, but also of



confidence, and hope.

So, what comes next? The Nepal earthquake of 2015 was the triggering event that pressed the Nepalese people for the need of disaster risk reduction and management. USAID worked closely with the government and other development partners to enhance building codes and construction standards, improved disaster planning and early warning systems. However, from COP-26, it was made clear that disaster risks facing the region are not static, and influenced by climate change, Nepal is a country highly vulnerable to this. In the months ahead, USAID will partner with Nepal, building on a strong foundation of cooperation and experience. As the NRA comes to an end, we express appreciation of our relationship, and its achievements. As we move ahead, we will continue to work with the government of Nepal and its people, and other development partners to face future challenges. The stakes could not be higher.

Mr. Karun Bansal, Foreign Secretary, Embassy of India

Mr. Bansal congratulated the Government of Nepal for successfully completing the reconstruction by building back better and organizing this ICNR 2021. He expressed the experiences, knowledge and methods shared in different ICNR thematic sessions will guide the process from recovery to resilience. The world had come together to support the government of Nepal in a time of need, after the earthquake that destroyed infrastructure and left deep scars on people's lives, livelihoods, and the economy. India has played its part and been very successful in supporting the rapid response and reconstruction after the 2015 earthquake, which remains one its

largest overseas humanitarian aid programmes.

In the first ICNR 2015, India pledged USD 1 billion to contribute to health, education, cultural heritage, and housing reconstruction. With the joint efforts of NRA, local governments, UNDP and UNOPS, EOI has completed 50,000 houses reconstruction in Gorkha and Nuwakot districts. On this occasion, India congratulates NRA and its team for the significant success and the completion of the post-earthquake recovery and reconstruction programme. Whilst the post-disaster recovery and reconstruction works gradually come to an end, the partnership between India and Nepal, which is multifaceted and multidimensional, continues in the sectors of agriculture, roads and transport, electricity, health, heritage conservation and disaster risk reduction.

Mr. Bansal expressed that he looked forward to working with NDRRMA to mainstream the lessons learned from the post-earthquake recovery and reconstruction work, and to supporting capacity building efforts. He stated that India can facilitate information exchange based on our joint country experience and are ready to support the institutionalization of the lessons learned. He stated that the government of India will work closely together with the government of Nepal, building also on the close people-to-people links that exist, and continuing to assist improvement in the quality of lives of the vulnerable people of Nepal. India will also be unhesitant to come forward to support other needs of Nepal and by building on the bilateral ethos



and action of mutual support and solidarity between our two countries.

H.E. Ambassador Ms. Hou Yanqi, Ambassador, PRC

Ms. Hou Yanqi, opened by stating that for the past two days, we have shared exhilarating discussions under the theme of 'from reconstruction to resilience'. Through the owner driven approach, Nepal moves towards the goals of building back better and leaving no one behind. The past two days are the epitome of the past six years, reflecting the efforts of all parties, and the laughter and tears of Nepalese people, as well as the hard work that has led to the fruitful results we have discussed here in ICNR 2021.

On behalf of the Chinese government, Ms. Yanqi expressed appreciation to the Nepal Government for its organizing of the ICNR 2021, and to its successful undertaking of the recovery and reconstruction programme after the Gorkha Earthquake. China immediately declared 25 assistance projects to support Nepal in its efforts, including for physical infrastructure, restoration of cultural relics and historic sites, as well as people's livelihoods, disaster prevention, and medical health care. As one of these achievements, Durbar High School regained its glory as the first modern education school in Nepal, and students returned to the safe and beautiful classrooms.

Despite the Covid-19 pandemic, we have continued to support Nepal, and another example of this successful collaboration is the 9-storey Basantapur tower in Durbar Square, one of Nepal's and the world's magnificent heritage sites. The above two mentioned sites will also be part of the field visits

planned for the final day of the conference. China is a close friend, reliable friend, and trusted partner to Nepal. Our two countries have yet again written a talking chapter of friendship in this reconstruction cooperation. China has always supported Nepal's independence, development, peace, and stability. Today provides an opportunity for Nepal to embark on a new journey, and China will support Nepal in this, against the pandemic, on its recovery, and deepen the belt road cooperation. China is willing to shoulder responsibility, exchange ideas and learning, and support Nepal in achieving and advancing sustainable development. China wishes for the growth and prosperity of this beautiful country.

Hon. Mr. Bishnu Poudel, Former Finance Minister

The Nepal earthquake 2015 caused devastating effects and posed huge challenges ahead of us. Despite these challenges, we political parties joined hands together and worked jointly on achieving the results of which many have been shared these past two days. During 2015, UML government expedited the rescue and relief program following a fast-track mode in which 27,000 temporary houses were constructed, 22,000 had rubble cleared, and more than 1,000 temporary shelters were made for schools and colleges. The efforts showed that the UML government has delivered a positive message and has received worthy praise from around the world.

3,000 engineers were mobilized and recruited at a single time, for which, and on priority basis, private housing reconstruction commenced as a 1st line of priority; schools and health institutions were the 2nd line of priority, and cultural heritage sites were the 3rd line of priority. In parallel, economic



upliftment gained equal importance with private housing reconstruction. By July 2021, the UML supported government has managed to support the reconstruction of more than 700,000 private houses while achievements in schools, health institutions, commercial buildings, government buildings, public infrastructure and cultural heritage sites have also been extremely positive.

The lessons of making houses more resilient by assuring their technical elements has been one of the main learning points throughout this reconstruction period. A clear path and roadmap are now needed to take our nation into a disaster resilient state, for which the UML party is totally committed to support the ICNR declaration that enshrines the vision of making Nepal a disaster resilient nation.

Honoring Reconstruction Contributors

The Rt. Hon. Prime Minister handed over certificates of appreciation to Mr. Sushil Gyewali, CEO NRA; Mr. Sushil Tiwari, Secretary NRA, Dr. Chandra Bahadur Shrestha, Executive Committee Member NRA and ICNR Convenor, and Mr. Manohar Ghimire, Under-Secretary NRA and Member Secretary ICNR, for their efforts in and commitment to successfully organizing the ICNR Conference 2021.

Further, Mr. Kamran Akbar, Senior Disaster Risk Management Specialist for the World Bank Reconstruction Programme, accepted certificates of

appreciation on behalf of the Multi-donor Trust Fund Agencies – World Bank, Canada, UKAid, USAID and SDC.

Rt. Hon. Prime Minister Mr. Sher Bahadur Deuba, Government of Nepal

The memories of 2015 earthquake that left many people homeless, and that took the lives of thousands of people, is still fresh in our minds. Important infrastructure, iconic monuments and cultural heritage were reduced to rubble. Six and a half years later, the reconstruction nears completion. However, our journey was not easy, with limited resources and technical knowhow compared to the magnitude of the devastation. However, we were able to transform destruction into opportunity, and build back better with strong determination, the peoples' trust, and development partners' support.

The original agony we faced has taught us important lessons on mitigating risk and strengthening resilience. These experiences have also contributed to enhancing public awareness of natural disasters. Further, the reconstruction programme has also significantly contributed to Nepal's economy. Cultural heritage has been rebuilt with ultimate resistance, whilst preserving the original features of these sanctities. The experiences will positively contribute to the continued maintenance and renovation of our ancient heritage in future.

Effective implementation of the national building code, risk assessment and early warning systems, and the outcomes of the ICNR will be valuable to Nepal, shape up the vision of Nepal towards being a disaster resilient nation, and in localizing disaster related SDGs. These are also important considering



implementing green, resilient and inclusive development. Nepal government is equally humbly thankful to all friendly countries and development partners and all concerned stakeholders who extended cooperation and were involved from early phases of the relief, recovery, and reconstruction programme interventions, and in information communication. Thanks, are also due to the political parties, government at all levels, people's representatives, civil servants, security agencies, civil society, private sector, media, and experts, for all solidarity and support. Thanks, and appreciation are also due to the strength and perseverance demonstrated by the people, of all walks of life. The courage, patience and helpfulness shown by the affected people create pride.

Finally, thanks are due to the NRA and ICNR organizing team for their dedication in arranging such a successful event, despite the Covid-19 pandemic, and to the multi-donor trust fund agencies and other development partners, for joining hands with us on our journey of building back better. The ICNR has surely presented achievements and identified areas of improvement and will provide knowledge and best practices to be shared with the international community.

Mr. Sushil Gyewali, CEO, NRA

Mr. Gyewali commenced with a reflection of the incredible journey that has been undertaken together over the past six years, culminating, and presented in this International Conference on Nepal's Reconstruction. He reiterated that despite the terribly tragic earthquake, Nepal has come back stronger from this, and, working together – hand in hand has moved from Reconstruction to Resilience.

He exclaimed that during the conference, so much knowledge, so many ideas, lessons, practices, and principles have been shared, of value not just for Nepal, but also other countries that suffer from natural disasters and hazard risks.

He presented those challenges that have been faced and overcome, and he appreciated the collaboration that made this possible, presenting NRA as a beacon of trust for the Nepali people. He stated with certainty that Nepal has built back better, and left no one behind, both in action and principle, but also as NRA's mantra.

Of the future, of NRA's legacy, and efforts, and on sustaining institutionalizing and putting into practice what has been learned, he reminded all participants of the five key messages from his opening presentation, namely:

Nepal should adhere to and uphold a Green, Resilient and Inclusive Development imperative

NDRRMA must take up the mantle with continued support from the government and development partners

Disaster management policy and practice must be established and strengthened within the governance structures at all levels of the country

A clear framework for setting disaster-related goals and objectives must be mapped out and implemented in line with Nepal's Disaster Resilient Framework

We all have a duty to take away all that we have learned and apply this in practice, not just in Nepal on its continued pathway towards resilience, but around the World. For this, he reinforced the value



of the NRA's Compendium as a cornerstone and font of knowledge. But also invited all international participants to also visit Nepal and see for themselves what has been accomplished.

He then went on to sincerely thank several individuals and agencies, including: the three Chairs of the NRA Steering Committee; the Hon. former Prime Minister Mr. K. P. Sharma Oli; the Right Honorable Prime Minister and current chair of the steering committee; the Rt. Hon. President Ms. Bidya Devi Bhandari; all parliamentarians and peoples' representatives of all the three levels of governments and officials; all Development Partners, partner organizations, INGOs and NGOs, academia, private sector, and the media. He went on to express gratitude to his team, including the 'legs and arms' of the NRA - the 3,000 Field Engineers, and finally to the young people of Nepal who have lived through this experience and grown in knowledge and skill because of it, and who will be the new foundations of Nepal's new future.

Before closing the ceremony, and the conference, he expressed that it was because of the resilient capacity that the people and communities of Nepal showed, that he had the trust and confidence to take on the huge task of leading the reconstruction programme and thanked the citizens of Nepal for this.

Finally, he expressed his profound gratitude to the Distinguished Guests for their presence; the MDTF partners for their financial and technical support; the Conference Organizers for their tireless work; the Presenters and Commentators whose expertise and inspiring thoughts have been so capably shared; and especially to all the participants of conference- both live and virtual.

Mr. Gyewali then officially closed the International Conference on Nepal's Reconstruction 2021 and wished all participants safe travels back to their homes.

नेपालको पुनर्निर्माणसम्बन्धी अन्तर्राष्ट्रिय सम्मेलन २०७८

मंसिर २१-२३ । काठमाडौं, नेपाल

नेपाल सरकार

पुनर्निर्माण प्राधिकरण



ANNEX 1: OPENING CEREMONY SPEECHES

DAY 2 – WEDNESDAY, 08 DECEMBER 2021



OPENING CEREMONY SPEECHES

Speakers were requested to submit their script by 21 December 2021. Only 6 speech scripts were received which are presented below.

Speech 1: NRA Secretary's welcome speech

Rt. Hon. President Ms. Bidya Devi Bhandhari, Chairperson of this Inaugural session, Honorable Minister of Foreign Affairs Dr. Narayan Khadka, Honorable Ministers, Chief Executive officer of NRA Mr. Sushil Gyewali, Honorable Vice Chancellor of NPC, Honorable members of Parliaments, Honorable Ministers of the provincial governments, Chief Secretary Mr. Shankar Das Bairagi, High level Foreign Dignitaries, Head of District Coordination Committees and Local Governments, High level Gov. Officials, Excellency Ambassadors, Head of DPs and Diplomatic Missions, Head or Representatives of INGOs, NGOs and Private sectors Other Distinguished Guests, Experts and Participants, Medias, Security Personnel, Ladies and Gentlemen.

It's my great pleasure indeed, to take this opportunity, on behalf of the National Reconstruction Authority, Government of Nepal, to welcome you all to this International Conference on Nepal's Reconstruction, 2021 which is being held to share the experiences and lessons of Nepal's reconstruction after the Gorkha-earthquake, 2015 to the national and international communities. May I specifically extend our warm welcome to our Chief Guest Rt. Hn. President, all the high-level dignitaries and delegates, eminent speakers, and distinguished guests from all over the country and abroad.

The 2015 earthquake, in terms of the damages and the impacts it caused, was the most devastating that Nepal has ever faced and even prepared to cope with effectively. However, with our strong commitments and willingness support from our development partners, we have been able to successfully complete most of the recovery activities with the principle of "Built Back Better.

Let me also take this opportunity to highly appreciate our multilateral and bilateral development partners and the UN organizations for their financial as well technical support which is highly remarkable not only for reconstruction activities but also to enhance our capacity, knowledge, and documentation in disaster risk management.

The knowledge; experiences and learnings; and the confidence that we have gained through this complete journey, can be exemplary for both the national and international communities for building a more resilient society and sustainable development.

Due to the prevailing situation of Covid-19, the conference is being held in hybrid mode, both in presence and virtual, and more than 700 participants from all over the world are joining virtually. I hope you all feel convenient and pleasant during the whole event.

Finally, I welcome you all and look forward to your valuable contributions in making the event highly successful and fruitful.

Thank you.



Speech 2: Message from Patricia Danzi, Director General, Swiss Agency for Development and Cooperation (SDC)

Excellences, ladies and gentlemen, a very warm Namaste from Switzerland! I am extremely pleased to join you virtually today.

In 2015 a powerful earthquake struck Nepal. It was devastating with its epicenter not far from the capital. Nepalis recall it as the worst quake they have witnessed in the last 80 years. There were hundreds of aftershocks. The earth just kept on trembling and trembling for several weeks. Fear, destruction, and suffering were massive.

Six years later, the country is visibly recovering. Congratulations to you the People of Nepal, you have undertaken tremendous reconstruction efforts despite the many challenges you are facing.

Switzerland has been proudly supporting Nepal in its relief and recovery efforts along every step of that long journey.

We shared a joint vision of building back better once basic needs were covered. As an illustration of such support.

- 310 km of roads and 79 bridges were rebuilt to restore the country's lifelines
- 11600 families that lost their homes reconstructed earthquake proof houses
- Over 4000 young women and men underwent earthquake resilient masonry training. With this we managed to link vocation training with the huge construction needs the country has been facing.

Together we learnt many lessons. I would like to mention just two: First, strengthening local governments as foreseen by the constitution of Nepal is key. That is where the first responders are! Second, it is crucial to include the most vulnerable people in the reconstruction plans from the very beginning, leaving no one behind.

Nepal and Switzerland share a longstanding friendship. We shall continue to offer our support for Nepal's communities to be more resilient to shocks.

Wishing you all a very successful Conference.

Thank you.

Speech 3: Neil Buhne, Regional Director, UN Office for Development Coordination *Namaste.*

Right Honorable President of Nepal Ms. Bidya Devi Bhandari, Right Honorable Prime Minister of Nepal Sher Bahadur Deuba, Honorable Ministers, Excellencies, and distinguished guests, it is my great pleasure to be invited to deliver some opening remarks at this important event, marking the completion of the National Reconstruction Authority's mandate, and huge progress made on the reconstruction effort.

First, on behalf of the UN system, I want to offer congratulations to the National Reconstruction Authority for completing this stage of the reconstruction process, with 700,000 private houses reconstructed, 7,000 safe school buildings reconstructed, and much other critical infrastructure, and doing this in a way that's very much in the spirit of leaving no one behind. For example, new schools being made accessible for the first time for persons



with disabilities.

It's also impressive the way that you've combined different objectives, with rebuilding, with cultural development, with skills development, with economic development, and done in an equitable way that promotes resilience. A good example of this is the way that the cultural and archaeological sites that were damaged or destroyed, that I saw about 10 years ago when I first visited Kathmandu, how they looked when I just visited in October, how much they had been rebuilt. And rebuilt through training Nepalis. 100,000 skilled masons now able to construct earthquake safe buildings are going to provide a strong foundation for future development and future living places for people.

So, there is really an opportunity now to explore how this skilled workforce and the knowledge gained can be used and expanded to build resilience across the whole country, in the very many other high-risk areas that you have, to help prevent the suffering that happened in 2015. And to help prevent the damage that had such a long-standing impact on the economy and society. It's also going to be important because this has been managed through the Government, through the National Reconstructing Authority, and now responsibility is being turned over to local governments, so it's important that this capacity be maintained.

Now, the United Nations has been proud to be a partner in this, working alongside the Government and the National Reconstruction Authority to do this package of reconstruction, which has made such a difference already to the country. And it's going to be even more important in the future because Nepal, like other countries in Asia-Pacific, is extremely

vulnerable, right now, to the effects of climate change. Of course, it is vulnerable to earthquakes, especially no. But it's also vulnerable to flooding, to landslides. Neighboring countries are affected by tropical storms, even tornadoes.

The reality is, as you have seen all too clearly, is that it's the most vulnerable people who suffer the greatest setbacks. Whether through being directly affected, or through the impact on economic and development progress. Climate change is becoming more and more frequent. Climate adaptation was a central theme of COP 26. Asia-Pacific countries have no choice really, but to adapt. And that's where the opportunity of this conference comes. Because with this increased awareness of the need to adapt, increased commitment to adapt, this is the time to look at Nepal's very special eyepiece over this five-year reconstruction period. And that can be applied to other countries in the region.

So, I want to thank you very much for convening this important event. I know that many of my UN colleagues in Nepal, but also in the region, are participating in person, some virtually, and hope to learn a lot throughout the conference. I think we all look forward to seeing the outcomes and the findings. And we look forward to the continued collaboration of the United Nations with the Government of Nepal in the development, resilience and recovery and efforts to adapt to the effects of climate change.

Dhanyabad.



Speech 4: Ambassador Torun Dramdal

Right Honorable President Bhandari, Honorable Foreign Minister Khadka, Honorable Ministers, Respected CEO of the National Reconstruction Authority, Distinguished participants.

Namaste,

I have the honor today to deliver a message from the Norwegian Minister of International Development, Ms. Anne Beathe Tvinneim, to the International Conference on Nepal's Reconstruction.

The Earthquake that struck Nepal in 2015 was a disaster. In lives lost, for those who lost loved ones and for all those who were injured or rendered without a home, a school or health facilities.

It is difficult to comprehend the massive task the Nepali people, the government of Nepal and its partners had ahead when starting the reconstruction efforts.

I would like to congratulate the National Reconstruction Authority on their leadership and for fulfilling their mandate. The National Reconstruction Authority has been an efficient, temporary institution, responding to the needs.

Norway has supported reconstruction with humanitarian assistance via multilateral channels, temporary VDC buildings and not least, retrofitting and reconstruction of affected schools.

We have worked together with the ambition of building back better – an ambition I like to think we have kept by providing quality school buildings in affected and remote areas of the country.

Our bilateral cooperation does not limit itself to reconstruction.

Norway and Nepal are long-term partners in education, renewable energy, and good governance. Our intention is that this close partnership will continue.

Finally, our Minister of International Development is looking very much forward to visiting Nepal as soon as it is feasible.

Thank you.

Speech 5: H.E. Randy W. Berry, US Ambassador to Nepal

Honorable President Bidya Devi Bhandari, Honorable Ministers, CEO of the NRA Mr. Sushil Gyewali, Heads of multilateral agencies, Fellow Ambassadors, Friends and Colleagues.

Namaste, and good morning.

On behalf of the United States government, it is my pleasure to be here with you today for the opening ceremony of this second International Conference on Nepal's Reconstruction.

At the first Reconstruction Conference in 2015, the U.S. government pledged to stand by Nepal in its time of need. In the six years since, we've delivered on that commitment.

In total, the U.S. government has, in close partnership with the Government of Nepal and our fellow development partners, invested more than \$190 million U.S. dollars to support Nepal's recovery and reconstruction process, and to help Nepal build back better.

The results of our collective work are extraordinary in scale and consequence. While no country can be fully prepared for every disaster, it's clear that Nepal is



now much better prepared for a major disaster than it was in 2015 as a direct result of strong government leadership and our collective investments.

- The United States responded to the earthquakes from day one, assisting with search and rescue efforts from the very beginning.
- Soon after, the U.S. government, through USAID, constructed 1,295 temporary learning facilities including water and sanitation stations that allowed students to remain in school and minimized learning disruptions.
 - These efforts ensured that more than 93,000 students could continue to learn, and ultimately return to safer schools.
- Next, the USG partnered with the people and government of Nepal to build 36 permanent schools and health facilities to serve more than 237,000 Nepalis – facilities that are built to the highest standard and will serve these communities and Nepal for decades to come.
 - We have completed the construction of 32 of those facilities and the remaining 4 schools will be completed in the next few months.
- The USG made equally significant investments in housing reconstruction, assisting the Government of Nepal to distribute millions of dollars' worth of housing grants for seismic-resistant homes, resulting in the training of thousands in disaster-safe construction techniques, and allowed community members to rebuild more than 60,000 homes using safer construction standards.
- And as part of the U.S. government's continued commitment to post-earthquake recovery efforts, the U.S. government's Ambassadors Fund for Cultural Preservation awarded grants, totaling more than \$1.85M, to restore and structurally strengthen Nepal's historic cultural heritage buildings and temples to their original grandeur – to be more resilient in the event of future natural disasters, and so that they may be enjoyed by generations to come.
- While we can't control the timing of Nepal's next major earthquake or flood, we do control the systems, policies and safeguards that are essential to minimizing the human and environmental costs.
- I've been heartened, therefore, to see the GON take a few critical steps to strengthen Nepal's disaster readiness, such as creating a National Disaster Reduction and Management Authority, working to develop a robust National Adaptation Plan, and strengthening building codes and standards.
- To support the Government of Nepal's disaster preparedness efforts, the U.S. government is investing to increase disaster preparedness and climate change adaptation at all levels by, for example, training construction professionals to better implement the Nepal Building Code, assisting municipalities to map risks and strengthen their early warning systems, and training first responders.
- We also recognize that Nepal is among the most climate vulnerable countries in the world. For that reason, we are committed to supporting



Nepal's adaptation priorities.

- We look forward to continuing to discuss with you the areas of greatest need and opportunity, and to soon launching a major new project to support national adaptation and biodiversity conservation priorities.

The climate change challenge transcends borders and requires collective action on an unprecedented scale. Similarly, effective disaster planning and response is a complex and resource-intensive effort that requires cooperation across government agencies, borders, and political divides. And because few countries have the resources or expertise necessary to adequately prepare for or respond to every disaster entirely on their own, disaster response and prevention requires friends to stand by their friends.

The United States was proud to stand by Nepal in the aftermath of 2015's devastating earthquakes. We now look forward to building on our more than seventy years of friendship and partnership in the years ahead.

Speech 6: Dr. S. Jaishankar, External Affairs Minister's (GoI)

Rt. Hon'ble Ms. Bidya Devi Bhandari, President of Nepal, Dr. Narayan Khadka, Minister of Foreign Affairs, Mr. Janardhan Sharma, Finance Minister of Nepal, Friends from the media, Ladies and Gentlemen.

At the outset, on behalf of my Government, I extend sincere congratulations to the Government of Nepal for organizing this International Conference on Nepal's Reconstruction. It provides a valuable opportunity to deliberate upon the learning from the 2015 earthquake and the experiences in emergency

response, reconstruction and recovery led by Nepal with its international partners.

After the calamitous high magnitude earthquakes that struck Nepal on April 25 and May 12, 2015, a daunting and unprecedented task of national relief, recovery and reconstruction lay ahead for the Government of Nepal and its people.

As a close neighbor, India launched a swift, spontaneous, and substantive relief operation within 6 hours of the earthquake to support Nepal's own national efforts. In those early hours, as desperate efforts converged on finding survivors, extending relief, reuniting family members, attending to the injured and salvaging infrastructure even as aftershocks continued to rock Nepal, India put into motion operation 'Maitri' for humanitarian assistance and relief, under the leadership of Prime Minister Narendra Modi. To this date, it remains one of our largest ever disaster relief operations abroad.

At the first International Conference on Nepal's Reconstruction on June 25, 2015, my predecessor late Smt. Sushma Swaraj Ji pledged USD 1 billion as Government of India support for earthquake reconstruction; one-fourth of it was committed as grant assistance to be utilized for health, cultural heritage, housing, and education sectors.

Over the last five years and more, India has substantially fulfilled our commitment under various priority sectors identified by the Government of Nepal. I take this opportunity to share that we have completed construction of 50,000 owner-driven houses in Gorkha and Nuwakot districts under Indian-assistance. This was possible through the joint efforts by all stakeholders, including the National



Reconstruction Authority of Nepal, local government, house-owners, and UNDP and UNOPS that provided socio-technical facilitation for the initiative.

The projects in remaining sectors of health, education and culture are also under progress. GoI is funding reconstruction of 70 schools and a Library, 132 health facilities and 28 cultural heritage sector projects in various earthquake-affected districts of Nepal under USD 150 million grant with the estimated cost of USD 112 million. Apart from these 43 reconstruction related projects estimated at USD 266 million are being undertaken as part of the fourth line of credit of USD 750 million to the government of Nepal.

Ladies and Gentlemen,

I salute the resilience of the people of Nepal in rebuilding their lives and communities from the debris of destruction. The formidable and tireless efforts of Nepal in this direction really deserve our collective appreciation and support. With such dedicated efforts, Nepal's reconstruction is nearing successful completion as the lessons learnt and capacities rebuilt get mainstreamed into its overall development priorities.

One critical learning must be the integration of best practices and adoption of new resilient technologies to guard against the scale of tragedy that unfolded in 2015. Further, the speed and quality of close international coordination and cooperation is a crucial differentiator in such cases of large-scale humanitarian disasters. Our individual and collective responses to the challenge posed by the COVID-19 pandemic sharply illustrates both the necessity of such coordination and the gaps we need to continue to work to plug. During the recent G-20 summit in

Rome, Prime Minister Narendra Modi spoke about our vision of 'one earth, one health' as a principle to deal not only with COVID pandemic but also future crises. This approach has guided our international cooperation with our partners during the Covid pandemic, including Nepal. Apart from "Government of India's 'Vaccine Maitri' Initiative under which India has been assisting Nepal to fight Covid-19 through the supply of vaccines. Various kinds of assistance have been extended since last year including supply of medicine and medical equipment such as remedy sivr, ICU Ventilators, X-ray Machines, computed radiography System, video endoscopic units, laboratory equipment etc. In addition, A medical oxygen plant was gifted by the government of India based on the state of our technology developed indigenously. This was installed at the BP Koirala Institute of Health and Sciences in Dharan to reinforce critical health infrastructure amidst the devastating second wave of COVID in Nepal.

India's development cooperation with Nepal is multi-faceted and multi-dimensional and has stood the test of time. Our cooperation extends to every area of human endeavor and is informed by the intertwined destinies and development paths that join the people of both countries.

Ladies and Gentlemen,

As climate change, natural and man-made disasters threaten our fragile planet; the imperative for collective and coordinated action has never been stronger. Due to geographic location and vulnerability to disasters, the need for building capabilities, interoperability, and a conceptual framework for participation in HADR operations is gaining urgency. Our response needs to consider vulnerable countries



and populations for strengthened support.

India has a wide experience of disaster relief operations both at home and abroad and has partnered with the global community in being an early responder for providing relief in affected regions. Recognizing the importance of upgraded and coordinated response, New Delhi hosts the headquarters of the Coalition for Disaster Resilient Infrastructure (CDRI) that was established 2 years ago to promote international cooperation in disaster-resilient infrastructure.

Ladies and Gentlemen,

India has always been a first responder in Nepal whenever disaster has struck. Our relationship with Nepal is as old as history itself. We are nurtured by the same mountains and rivers. As close partners with unparalleled civilizational and socio-cultural connect, mutual support and solidarity in times of need has been an integral part of our bilateral ethos and action. Let me underscore that India will always unhesitatingly step up to support the people of Nepal whenever called to do so.

As I conclude, I once again applaud the spirit and resilience of the Nepali nation that emerged from the ashes of destruction to undertake the task of rebuilding better and leaving no one behind in the process. It is a matter of honor and pride that India and its people could contribute to your journey of post-earthquake reconstruction. Our partnership in this regard also testifies to the durability and strength of the ties between our two great countries.

I wish the Government of Nepal a successful Conference and congratulate the Government of Nepal, the National Reconstruction Authority of Nepal, and the people of Nepal on the occasion.

Thank you. *Dhanyavaad.*

ANNEX 2: PRESENTATION MATERIALS

08 - 09 DECEMBER 2021

(2 SLOTS / 10 SESSIONS / 30 PRESENTATIONS)

LINK TO ALL PRESENTATIONS:

<https://bit.ly/35QQKdo>

ANNEX 3: CLOSING CEREMONY SPEECHES

DAY 3 – THURSDAY, 09 DECEMBER 2021



CLOSING CEREMONY SPEECHES

Speakers were requested to submit their script by 21 December 2021. Only 5 speech scripts were received which are presented below.

Speech 1: Mr. Karun Bansal, FS (DPR), EoI

Rt. Hon'ble Shri Sher Bahadur Deuba, Prime Minister of Nepal, Hon'ble Dr. Narayan Khadka, Minister for Foreign Affairs, Hon'ble Mr. Rajendra Shrestha, Minister for Federal Affairs and General Administration, Hon'ble Mr. Bishnu Paudel, Former Dy. Prime Minister, Mr. Sushil Gyewali, Chief Executive officer, National Reconstruction Authority, Excellency Ambassadors of various countries present, Distinguished colleagues from various countries and international organizations, Officials from various Ministries and departments of Government of Nepal, Friends from the media, Distinguished guests, Ladies and gentlemen.

At the outset, I congratulate the Government of Nepal for successfully completing the responsibility of building back better and organizing this International Conference on Nepal's Reconstruction 2021 to share the significant achievements and experiences of the past six years.

The conference has provided a platform for discussing effective approaches and methods for implementing the disaster risk management approach in prevention, mitigation, preparedness, response, and recovery. I hope the experiences shared by experts during various thematic sessions will prove to be a guiding factor for making the NRA motive of "from

reconstruction to resilience".

The high magnitude earthquake that struck Nepal in 2015, caused wide scale damage to physical infrastructure and left a deep scar on the economy and livelihood. At that time, the whole world came together to supplement the Government of Nepal's efforts for coming out of this crisis. India swiftly responded to mobilize a rapid relief and rescue operation, which remains one of India's largest overseas humanitarian assistance efforts till date.

At the 1st International conference of Nepal's reconstruction held in June 2015, India pledged USD 1 billion financial support for post-earthquake reconstruction works with one-fourth of it was committed as Grant assistance to be utilized for health, culture heritage, housing, and education sectors. As highlighted by our External Affairs Minister Dr. S. Jaishankar yesterday, the Government of India has substantially fulfilled its commitment on the prioritized sectors. With the joint efforts of NRA, local government, house-owners, and UNDP and UNOPS, we have completed construction of 50000 houses in Gorkha and Nuwakot districts under Indian assistance. The projects in remaining sectors are under progress and we shall strive to ensure their completion at the earliest.

On this occasion, I would like to appreciate the tireless efforts of NRA and its team which has led Nepal's reconstruction towards successful completion. In the last six years, significant progress has been



made in the post-earthquake reconstruction and rehabilitation. Using disaster as an opportunity, the NRA adopted the principle of 'Build Back Better' and has managed to rebuild thousands of earthquake-resilient structures in 32 earthquake-affected districts.

Excellencies, Ladies and Gentlemen,

The post-earthquake reconstruction projects are now getting completed but the development partnership between our two countries is multi-faceted and multi-dimensional and will continue. As stated by our External Affairs Minister yesterday, the Embassy of India will effectively promote cooperation with Nepal in the fields of Agriculture, Housing, Roads and Transport, Electricity, Health, Education, Cultural heritage, and Disaster Risk Reduction.

As the NRA immobilizes and hands over the baton to NDRRMA engagement for sustainability of Nepal's post-earthquake reconstruction and recovery efforts and disaster risk management, we look forward to working with NDRRMA to mainstream the lessons learnt and capacities rebuilt during reconstruction process into the development priorities of Nepal.

The Government of India will always endeavor for effective and efficient facilitation of information, exchange of disaster experiences, and best practices on disaster management to the Government of Nepal. India deeply values the wide-ranging development partnership with Nepal built on strong bedrock of our abiding and close people to people links and will toil to prosper in this direction.

As I conclude, I once again like to congratulate GoN for organizing this Conference and sharing the achievements and experiences with the international community.

I would also like to reiterate what our External Affairs Minister mentioned yesterday that mutual support and solidarity in times of need has been an integral part of our bilateral ethos and action. India will always unhesitatingly step up to the support of the people of Nepal, whenever called to do so.

Thank you.

Speech 2: Ms. Yumiko Asakuma, Chief Representative of JICA Nepal Office

Chief Guest, Rt. Honorable Prime Minister of Nepal Mr. Sher Bahadur Deuba, Honorable Ministers, Excellencies, Mr. Gyewali, CEO of the National Reconstruction Authority, distinguish guests and Ladies and Gentlemen.

Very Good Afternoon and *Namaskar*.

First, I would like to express my deep condolences to the families who lost their loved ones during the 2015 earthquake.

Starting with the remarks by His Excellency Mr. Honda Taro, Parliamentary Vice-Minister for Foreign Affairs of Japan, representatives from the Government of Japan and JICA have shared our experiences and knowledge in 5 sessions in the 3 days of the conference.

Lastly, it is my honor to share a few words in the closing ceremony of the Conference on Nepal's Reconstruction. I would also like to congratulate the National Reconstruction Authority for successfully organizing the International Conference on Nepal's Reconstruction.

Nepal and Japan share many common features like the mountainous terrain, culture, and our appearance



to some extent. Unfortunately, we also share many common hazards and disaster risks.

Japan has supported Nepal since immediately after the earthquake. I would like to inform you that some Japanese experts who suffered during the Great Hanshin Awaji Earthquake in 1995 or East Japan Earthquake in 2011 joined in the cooperation to help Nepal's Reconstruction with their experiences.

I would like to take you back 100 years to 1925 when my grandfather lost his house and shop in a fire caused by an earthquake of magnitude 6.8. Coming from this background, I can understand the hardship caused by a disaster. I believe cooperation should be from both sides, not only from one side. We learnt from the reconstruction practices of Nepal especially about the importance of the "Build Back Better" approach. We have also learnt a lot from the ICNR in the past few days. In the coming days, we will use this knowledge and lessons learned from our cooperation with Nepal and other countries along with works in Japan as well.

There is a Japanese Proverb saying, "Natural Disasters occur when everyone forgets it", so we should always be mindful and prepared.

I believe 2022 will be the start of a new era to build disaster resilient Nepal. Also 2022 is Japan- Nepal Friendship year, which marks 120 years since the first 8 students traveled to Japan from Nepal.

Lastly, I would like to conclude my remarks by reaffirming that JICA will continue our cooperation with Nepal to build disaster resilient Nepal. I believe it will contribute to further friendship and partnership between Nepal and Japan.

Thank you very much. Danyaabad.

Speech 3: Kanni Wignaraja, Assistant Secretary-General, Assistant Administrator and Director of UNDP's Regional Bureau for Asia and the Pacific

Honorable Prime Minister Sher Bahadur Deuba, Excellencies, Ladies and gentlemen.

When a devastating earthquake hit Nepal in April 2015, the world rallied to support this beautiful country with a rare dedication, generosity, and care. A nation's people and institutions took the lead and the international community stepped up.

Today, six years on, we look back to celebrate all the achievements and to learn from the massive reconstruction efforts that you have undertaken. UNDP has been a trusted development partner of Nepal for over five decades. My predecessor was in Kathmandu to express solidarity and support at the first ICNR in 2015. We have stood by and supported the National Reconstruction Authority as it got set up and began to deliver over the past five years. With the generous funding from the Government of India, UNDP was able to support the reconstruction of nearly 27,000 houses in Gorkha. This was a massive endeavor of not just physical rebuilding but also working with homeowners daily. In partnership with the EU, another 4000 houses were rebuilt in Dolakha and Sindupalchowk.

We thank the Government of India and the EU for this partnership. To us at UNDP, this is not just about rebuilding homes. It is also about instilling hope and nurturing resilience: one family, one home at a time. An important lesson from these experiences is that we must insist on recovery processes that are inclusive. After most disasters, vulnerable populations such as disabled, landless and the socially excluded groups



tend to be ignored or even forgotten. By providing additional financial assistance or by helping secure land titles it empowers those otherwise left behind.

Empowerment also comes from the process of owner driven reconstruction. When citizens are engaged as primary stakeholders as designers, developers and owners, development is just and lasting. We know that reconstruction must be locally differentiated and driven with cultural traditions respected and local materials used to the extent possible. We were able to train nearly 7000 masons to deliver local rebuilding in Gorkha alone of which 420 were women. It can be more.

As we cross this important milestone and enter the next phase, I assure that UNDP will stay the course. We will continue to support the people and Government of Nepal in your different efforts to prepare well to avert future disasters, to build resilience and ensure that no one is ever left behind.

Thank You and *Namaste* from New York!

Link to Video message:

<https://youtu.be/wqN0OXKzhhY>

Speech 4: Sepideh Keyvanshad, Mission Director, USAID-Nepal

Honorable Prime Minister Sher Bahadur Deuba, Honorable Ministers, CEO of the NRA Mr. Sushil Gyewali, Excellencies and Heads of Agencies, Friends and Colleagues.

Namaste and good afternoon.

It's an honor to be with all of you here at the closing ceremony of this second international conference on Nepal's reconstruction. And it is a privilege to be able

to celebrate the achievements in post-earthquake reconstruction that many of the speakers have mentioned in their excellent remarks. Ambassador Berry spoke yesterday about US government reconstruction assistance provided to Nepal, including the building of schools, health facilities, and supporting the building of stronger, more resilient homes, as well as cultural heritage sites.

Of course, these efforts have not only led to improved structures, but they have also led to improved lives, to regain confidence, and to renewed hope.

- These reconstruction efforts have led to economic independence for the widow I met in Charikot, who told me she was able to rebuild her own home after the earthquake through the grant assistance and the masonry training, she received, and is now building homes for others and making a living for herself and her children.
- These reconstruction efforts have led to a better learning environment for the boys and the girls I met at the USAID handover ceremonies of the Shree Bhanu Secondary School and the Shree Dirgha Pradeep school in the Sindhuli district. Those students told me how the new school environment makes it so much easier for them to learn, and where one of the students told me she wants to become a lawyer after graduating so she can make sure everyone across Nepal has access to justice.
- These reconstruction efforts have led to confidence and to inspiration at the Kanya Mandir Secondary School, Nepal's first all-girls school. There, the three girls I spoke to all told me they want to go into the science field. And



the school's principal told me he expects the first female prime minister to be a graduate of that school.

- These reconstruction efforts have built on and strengthened the collaboration between our two governments at their different levels, including with the Bimeshwor municipality in the Dolakha district, where Mayor Bharat Bahadur KC graciously welcomed us and introduced us to the community members and showed how our joint efforts are improving the lives of his constituents.
- And all these efforts have strengthened and built on the over 75 years of relationship between our peoples.

So, what's next?

- The devastation wrought by the 2015 earthquake highlighted in stark terms the importance of disaster risk reduction and management.
- For that reason, throughout the reconstruction period, we worked closely with the Government of Nepal and our fellow development partners to enhance building codes and construction standards, improve disaster planning, support local adaptation plans, and strengthen early warning systems. And we're seeing promising results.
- As was highlighted at the Conference of Parties in Glasgow last month, however, the disaster risks facing the region are not static; they're increasing because of climate change.
- Vulnerability analysis makes clear that Nepal faces one of the highest levels of climate

risk in the world. The potential damage to Nepali communities from flooding, drought, temperature fluctuations, and other climate-induced hazards would be hard to overstate.

- Effectively addressing the risks facing the region and the globe requires collective action and partnership on an unprecedented scale.
- For that reason, the U.S. Government is committed to continuing to work closely with you to reduce and mitigate disaster risks, and to address the impacts of climate change.
- In the months ahead, we look forward to engaging closely with you to develop new partnerships and models that build on the agreements reached at COP 26 and that advance Nepal's green, resilient and inclusive development.
- In that endeavor, we have a strong foundation to build on and a wealth of lessons learned from the reconstruction effort - lessons that have been extensively and usefully documented and discussed throughout this event.
- As the tenure of the NRA comes to an end, we would like to express our appreciation for the close working relationship between the U.S. Government and the NRA and commend the NRA on its achievements in building national resilience. As this conference has shown, the reconstruction effort has achieved remarkable results that are deeply consequential for not just individual families but Nepal's long-term resilience and growth as a nation.
- As we move ahead, we look forward to



collaborating with the Government of Nepal and our fellow development partners to build on these reconstruction successes, and to meet new challenges.

- The stakes could not be any higher.

Thank you, and *Namaste*.

Speech 5: Rt. Hon. Mr. Sher Bahadur Deuba, Prime Minister of Nepal

Chair of the Session, Former Prime Ministers and Chairman and Vice-Chairman of the NRA Steering Committee, Hon. Ministers, Members of the Parliament, Your Excellencies the Ambassadors, Heads of Bilateral and Multilateral Cooperation Agencies and their Representatives, Friends from the Media, Ladies and Gentlemen

The afternoon of 25 April 2015 is still fresh in our memory. The devastating earthquake and the dreadful innumerable aftershocks took thousands of precious lives and left many people homeless, claiming nearly 9,000 lives and injuring many more. Critical infrastructures, iconic monuments, and ancient heritages were reduced to rubble. The total damage caused by the disaster is estimated to the tune of Rupees seven hundred billion.

Six and a half years down the road, the reconstruction and rehabilitation work reached the phase of completion. However, our journey to this phase was not easy. We had limited resources, technical know-how and capital compared to the magnitude of the devastation. Prioritizing our task among important sectors such as individual houses, schools, health centers, cultural heritages and infrastructures was equally challenging.

It was not an easy task. We had to face different obstacles and challenges. However, we can transform destruction into opportunity with strong determination, people's trust, and development partners' support. The hundreds-of-thousands of infrastructures reconstructed are now cost-effective and earthquake resistant. We have built back better, stronger, and smarter. On top of that, we were able to engage the community in the whole process of recovery, rehabilitation, and reconstruction.

The ordeal and agony of the devastating earthquakes have taught us important lessons on mitigating risks and strengthening resilience. These bitter experiences have also contributed to enhancing public awareness of natural disasters. The reconstruction work has also significantly contributed to our economy. It has helped us develop the human resources of engineers and skilled workers.

Public awareness of disasters has significantly increased. We have reconstructed our cultural heritages as earthquake resistant while preserving traditional features and sanctities. This experience will positively contribute to the restoration of our ancient heritages in future.

Based on our experiences, we have advanced a vision to develop Nepal as a country safe from disaster risks. The Nepal Disaster Resilience Framework is under preparation. The Framework will promote the application of retrofitting technology in houses made of local construction materials. Other priorities include the implementation of the National Building Code, risk assessment, relocation, and early warning systems.

The outcome of this Conference will be valuable for



Nepal's roadmap to safety from all kinds of disasters by 2030. I am confident that the outcome will contribute to the realization of disaster-related SDGs. It is also important in the context of Green, Resilience, and Inclusive Development.

Distinguished Guests,

I express gratitude to all friendly countries and development partners who have extended important cooperation to Nepal in rescue, relief, reconstruction, and rehabilitation works. I also thank political parties, Governments at all levels, people's representatives, civil servants, security agencies, civil society, the private sector, media and experts for their solidarity and support. I am encouraged by the sense of ownership and participation demonstrated by people of all walks of life.

Finally, I wholeheartedly appreciate the courage, patience and helpfulness shown by the affected people and am also proud of them for the sense of ownership, participation, and diligence during our trying times.

Finally, I commend the National Reconstruction Authority team for their dedication and for arranging such a successful event even amidst the challenges posed by the COVID-19 pandemic. I express my sincere appreciation to the Multi-Donor Trust Fund and development partners for joining hands in our journey of building back better.

I thank you all for your constructive participation. I am confident that this Conference has been successful in assessing achievements and identifying areas for improvement. We will be happy to share our knowledge and best practices with the international community at the time of need.

Thank you.

ANNEX 4: RECORDINGS

08-09 DECEMBER 2021

LINKS TO VIDEO RECORDINGS AND DOCUMENTARIES

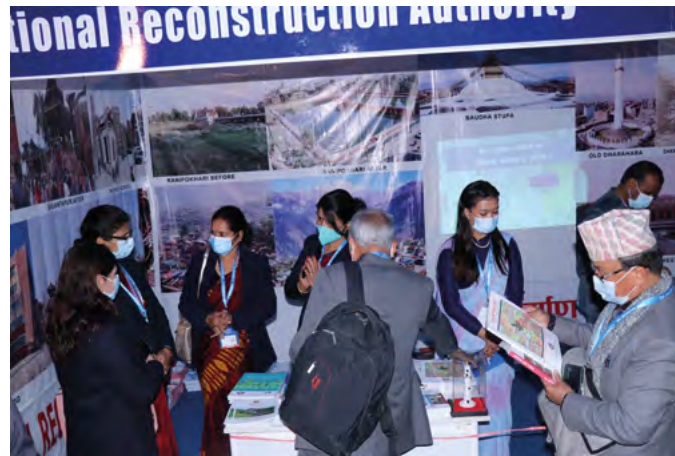
<https://icnr.nra.gov.np/programme/>



ANNEX 5: RELEVANT PHOTOGRAPHS

07 - 09 DECEMBER 2021







LIST OF CONTRIBUTORS

ICNR, 07 - 09 DECEMBER 2021



LIST OF CONTRIBUTORS

ICNR Organizing Committee

- Er. Sushil Gyewali, Chief Executive Officer (CEO), NRA Chairperson
- Mr. Shishir Kumar Dhungana, Secretary, OPMCM Member
- Mr. Sushil Chandra Tiwari, Secretary, NRA Member
- Mr. Dhruva Prasad Sharma, Executive Committee Member, NRA Member
- Dr. Chandra Bahadur Shrestha, Executive Committee Member, NRA Member
- Dr. Bishnu Bahadur Bhandari, Executive Committee Member, NRA Member
- Dr. Hariram Parajuli, Executive Committee Member, NRA Member
- Mr. Anil Pokhrel, EO, NDRRMA Member
- Er. Bharat Prasad Aryal, Joint Secretary, NRA Member
- Ms. Yamuna Pradhan, Joint Secretary, NRA Member
- Mr. Ramsharan Sapkota, Project Director, CLPIU (Education) Member
- Mr. Damodar Gautam, Director General, Department of Archaeology Member
- Joint Secretary, Ministry of Finance Member
- Joint Secretary, Ministry of Home Member
- Joint Secretary, OPMCM Member
- Joint Secretary, Ministry of Federal Affairs and General Administration Member
- Joint Secretary, Ministry of Foreign Affairs Member
- Joint Secretary, Ministry of Urban Development Member
- Joint Secretary, Ministry of Culture, Tourism and Civil Aviation Member
- Representative Members from Reconstruction Donor Agencies (5) Member
- Representative Members from Partner Organizations (5) Member
- Mr. Bhagawan Aryal, Joint Secretary, NRA Member Secretary

ICNR Secretariat

- Dr. Chandra B. Shrestha, Executive Committee Member, NRA Head of the Secretariat
- Er. Bharat Prasad Aryal, Joint Secretary, NRA Member
- Mr. Deepak Lamichhane, Chief Accountant, NRA Member
- Ms. Sulochana Nepali, World Bank Member
- Mr. Manohar Ghimire, Under Secretary, NRA Member Secretary

Permanent ICNR Secretariat invitees

- Mr. Sandeep Gurung
- Mr. Janardan Nepal
- Mr. Minar Thapa Magar

NRA Communication team

- Mr. Manohar Ghimire
- Mr. Kosmos Biswokarma
- Mr. Bhuwan KC
- Mr. Dipak Sapkota
- Mr. Sudeep Ghimire



ICNR Conference Report team

- Dr. Chandra Bahadur Shrestha, Coordinator
- Dr. Govind Nepal
- Dr. Adi Walker
- Ms. Sulochana Nepali
- Mr. Sandeep Gurung
- Mr. Minar Thapa Magar
- Mr. Ranjan Dhungel
- Mr. Ruplal Aidi
- Ms. Ambika Amatya
- Ms. Sabina Bhandari
- Mr. Keshab Shrestha
- Ms. Prakriti GC
- Mr. Sachin Malego
- Mr. Yubaraj Bhandari

ICNR Proceeding Report Redesign, Print and Publication Support

- Housing Recovery and Reconstruction Platform - Nepal

SPECIAL CONTRIBUTORS

Financial support

- MDTF (Multi-Donor Trust Fund) – USAID, UKaid, SDC, Canada & WB

WB Nepal team

- Mr. Kamran Akbar
- Mr. Hemang Karelia
- Ms. Sulochana Nepali
- Ms. Deepa Rai
- Ms. Rupa Shrestha
- Mr. Sujan Bahadur Thing

Conference organization, facilitation, and management

- Dr. Chandra Bahadur Shrestha
- Mr. Manohar Ghimire
- Dr. Adi Walker
- Mr. Sandeep Gurung

SERVICE PROVIDERS

Event management

- UTurn Events

ICNR Website & App (ICNR virtual arrangements)

- Emazing Pvt. Ltd.

Documentaries, thematic videos, and teasers

- Amuse Group
- Horizon Multimedia Pvt. Ltd.
- News Nepal Pvt. Ltd.
- All Three Media House
- Mila Production

Venue

- Hyatt Regency, Kathmandu

This page is intentionally left blank.



Government of Nepal
National Reconstruction Authority
Kathmandu, Nepal

Conference Supported by:




...from Reconstruction to Resilience
**INTERNATIONAL CONFERENCE
ON
NEPAL'S RECONSTRUCTION 2021**
December 7-9 | Kathmandu, Nepal



ICNR 2021



GOVERNMENT OF NEPAL
MINISTRY OF HOME AFFAIRS
NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT AUTHORITY



ISBN 978-9937-1-1794-4



9 789937 117944 >