NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT AUTHORITY (NDRRMA)
FEDERAL DEMOCRATIC REPUBLIC OF NEPAL

THE PROJECT FOR STRENGTHENING DISASTER RISK GOVERNANCE FOR RESILIENCE IN THE KATHMANDU VALLEY

PROJECT COMPLETION REPORT

JANUARY 2026

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

ORIENTAL CONSULTANTS GLOBAL CO., LTD.
PACIFIC CONSULTANTS CO., LTD.
CTI ENGINEERING INTERNATIONAL CO., LTD.

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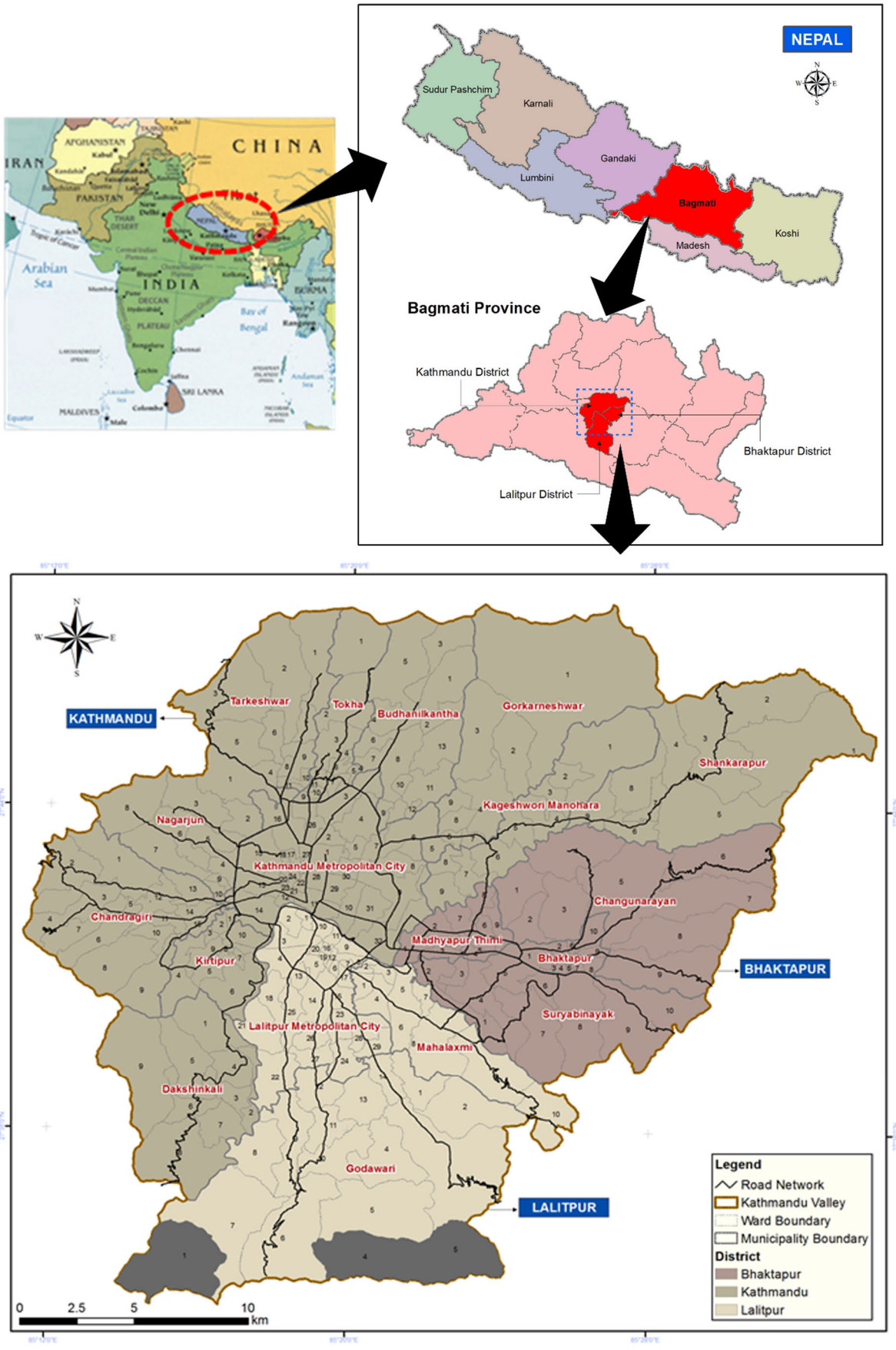
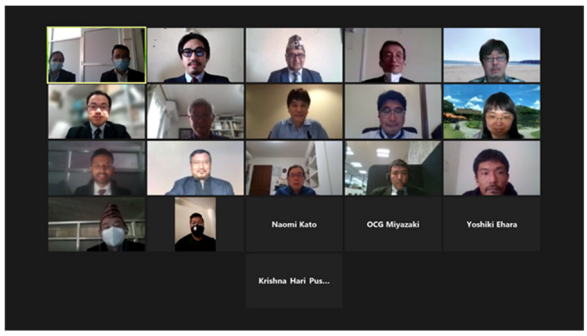
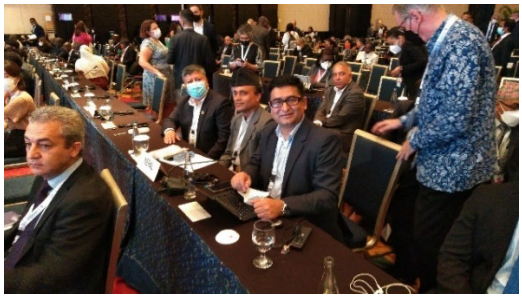
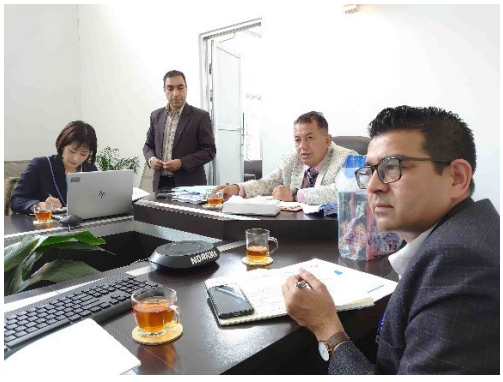


Location Map of the Project

Photos

	
1st JCC Meeting Singing Ceremony	Online meeting during COVID-19
	
OP1 Workshop	OP1 Workshop
	
OP2 NDRRMA coordination meeting with ministries	OP2 Site survey of Godavari health post and ward 3 office (same building)
	
OP3 1st LDCRF Workshop	OP3 1st LDCRF Workshop

	
JICA's Special Session on APMCDRR	JICA's Special Session on APMCDRR
	
7th Session of the Global Platform for Disaster Risk Reduction in Indonesia	5thJCC Meeting Signing
	
Invitation Program Town Walk in Kyojima	Invitation Program at Hyogo Prefectural
	
3rd Training in Japan (Kumamoto)	Presentation to New Chief Executive of NDRRMA

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Abbreviations

ADB	Asia Development Bank
APMCDRR	Asia-Pacific Ministerial Conference on Disaster Risk Reduction
BBB	Build Back Better
BCP	Business Continuity Plan
BIPAD	Building Information Platform Against Disaster
BRBIP	Bagmati River Basin Improvement Project
C/P	Counterpart
CCA	Climate Change Adaptation
CDRMP	Comprehensive Disaster Risk Management Programme
CE	Chief Executive
CLPIU	Central Level Project Implementation Unit
CNS-1, 2, 3	Central Nepal South Scenario Earthquake Ground Motion, PGA Modification Factor 1/3, 1/2, 2/3
COVID-19	Coronavirus Disease 2019
CSR	Corporate Social Responsibility
DDA	Detailed Damage Assessment
DFID	Department for International Development
DIMS	Disaster Information Management System
DM	Disaster Management
DMF	Disaster Management Fund
DMFOP	National Disaster Management Fund Operation Procedure
DoLI	Department of Local Infrastructure
DoR	Department of Road
DPRP	Disaster Preparedness and Response Plan
DPs	Development Partners
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
DRRMAP	Disaster Risk Reduction and Management Action Plan
DRR-NSPoA	Disaster Risk Reduction National Strategic Plan of Action
DTM	Digital Terrain Model
DUDBC	Department of Urban Development and Building Construction
DWRI	Department of Water Resources and Irrigation
EC	Executive Committee
EOI	Expressions of Interest
ERAKV	JICA's Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (2015-2018)
ESRP	Emergency School Reconstruction Project
FY	Fiscal Year
GEDSI	Gender Equality, Disability and Social Inclusion
GESI	Gender Equality and Social Inclusion

GIS	Geographic Information System
GoN	Government of Nepal
GPDRR	Global Platform for Disaster Risk Reduction
HPCIDBC	High Powered Committee for Integrated Development of Bagmati Civilization
HRDP	Humann Resource Development Plan
IDP	Institutional Development Plan
INGO	International Non-Governmental Organization
ISDR	International Strategy for Disaster Reduction
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
KMC	Kathmandu Metropolitan City
KV	Kathmandu Valley
KVDA	Kathmandu Valley Development Authority
KVRP	Kathmandu Valley Resilience Plan
LDCRP	Local Disaster and Climate Resilience Plan
LDMC	Local Disaster Management Committee
LDRMP	Local Disaster Risk Management Plan
LL	Local Level
M/M	Minutes of Meeting
MDSA	Monitor for Disaster Strategic Action Plans
MoEST	Ministry of Education, Science and Technology
MoEWRI	Ministry of Energy, Water Resources and Irrigation
MoF	Ministry of Finance
MoFAGA	Ministry of Federal Affairs and General Administration
MoFALD	Ministry of Federal Affairs and Local Development
MoHA	Ministry of Home Affairs
MoHP	Ministry of Health and Population
MoIAL	Ministry of Internal Affairs and Law
MoPIT	Ministry of Physical Infrastructure and Transport
MoUD	Ministry of Urban Development
Mw	Moment Magnitude
NASC	National Administrative Staff College
NBCC	Project for Promotion of Nepal National Building Code Compliance for Safer Building Construction
NC	National Counsil
NDC	Nationally Determined Contribution
NDRRMA	National Disaster Risk Reduction and Management Authority
NGO	Non-governmental Organization
NHSSP	Nepal Health Sector Support Programme
NPC	National Planning Commission
NPDRR	National Platform of Disaster Risk Reduction
NRA	National Reconstruction Authority

O&M	Operation and Management
OPMCM	Office of Prime Minister and Council of Ministers
PD	Project Director
PDM	Project Design Matrix
PDMC	Provincial Disaster Management Committee
PGA	Peak Ground Acceleration
PO	Plan of Operation
PPP	Public-Private Partnership
R/D	Record of Discussions
RRNE	JICA's Project on Rehabilitation and Recovery from Nepal Earthquake
SDC	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction
SNS	Social Networking Service
TF	Task Force
TOR	Terms of References
ToT	Training of Trainers
UN	United Nation
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
USGS	United States Geological Survey
VCA	Vulnerability and Capacity Assessment
VDC	Village Development Committee
WB	World Bank

Chapter 1 Basic Information of the Project

1.1 Country

Nepal

1.2 Title of the Project

The Project for Strengthening Disaster Risk Governance for Resilience in the Kathmandu Valley

1.3 Duration of the Project (Planned and Actual)

The project started one year later due to the spread of COVID-19 in both Nepal and Japan.

March 2020 ~ March 2024 (Planned)
January 12, 2021, ~ December 11, 2025 (Actual)

1.4 Background (from Record of Discussions (R/D))

The Federal Democratic Republic of Nepal (hereinafter referred to as "Nepal"), where the Indian and Eurasian plates meet, is one of the countries where earthquakes frequently occur. The Kathmandu Valley (hereinafter referred to as "KV"), which includes the capital city of Nepal, has experienced several disastrous earthquakes. The Gorkha earthquake of moment magnitude (Mw) 7.8 occurred on April 25, 2015, at the boundary of the Indian plate and Eurasian plate, with its epicenter approximately 76 km west of Kathmandu. This earthquake brought heavy damage to a wide range of areas. There were 8,900 people killed, and 22,000 people injured. In addition to the collapse of houses and damage to infrastructure, such as roads, bridges, hospitals, schools, historic buildings (e.g., Durbar Square, where the old royal palace of Kathmandu is located) and World Heritage temples were also severely damaged. JICA's technical cooperation initiative called "The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (2015-2018)" (hereinafter referred to as "JICA ERAKV Project") conducted the seismic hazard and risk assessment in KV, results of which show the possibility of significant damage to public facilities, bridges, and major roads. Ten percent of the total population and more than one-third of the country's economy are concentrated in the KV. Hence, it is necessary to establish a DRR investment system for allocating government funds in critical infrastructure, such as public facilities and major roads, to reduce disaster risks and strengthen the resilience (pre-disaster investment) before a disaster occurs.

To address concerns on disaster risk reduction (hereinafter referred to as "DRR"), the Government of Nepal (hereinafter referred to as "GoN") enacted the National Disaster Risk Reduction and Management Act in October 2017, which provides for the establishment of the National Disaster Risk Reduction and Management Authority (hereinafter referred to as "NDRRMA") as the central agency responsible for DRR, and formulated the National Policy for Disaster Risk Reduction and the Disaster Risk Reduction National Strategic Plan of Action in 2018. After the country transitioned to federalism in 2018, provincial and local governments have been working on enacting disaster risk reduction and management acts at their level, establishing disaster management committees, and formulating local

disaster risk reduction plans. However, the NDRRMA is still in the process of being established and the federal, provincial, and local governments are focusing more on preparedness and emergency response than on DRR projects. Therefore, there are still many issues that need to be addressed to build DRR system and implement DRR measures.

Given the circumstances, the Government of Japan received a request from the GoN for technical cooperation to strengthen the capacity of the Ministry of Home Affairs (MoHA) to implement "The Project for Strengthening Disaster Risk Governance for Resilience in the Kathmandu Valley" (hereinafter referred to as "the Project"). A detailed planning survey was conducted from September to October 2019, and based on the results of the survey, a Record of Discussions (hereinafter referred to as "R/D") containing details of technical cooperation was signed with the MoHA on 18 November 2019.

1.5 Overall Goal and Project Purpose (from Record of Discussions(R/D))

Overall goal and project purpose at the beginning of the project are as follows:

Overall goal: Disaster resilience is enhanced by the implementation of DRR investment.
Project Purpose: Disaster Risk Governance for promoting investment in DRR is strengthened.

1.6 Implementation Agency

1.6.1 Overall Structure of the Project

1) Responsible and Implementing Agency

NDRRMA's Concerned Department

* The CE of NDRRMA is the head of the Counterpart (C/P); however, the Project is implemented in collaboration with the Disaster and Conflict Management Division of MoHA depending on the content.

2) Collaborating Agencies

Ministry of Home Affairs (MoHA)

3) Coordinating Agencies

Ministry of Federal Affairs and General Administration (MoFAGA)
Ministry of Urban Development (MoUD)

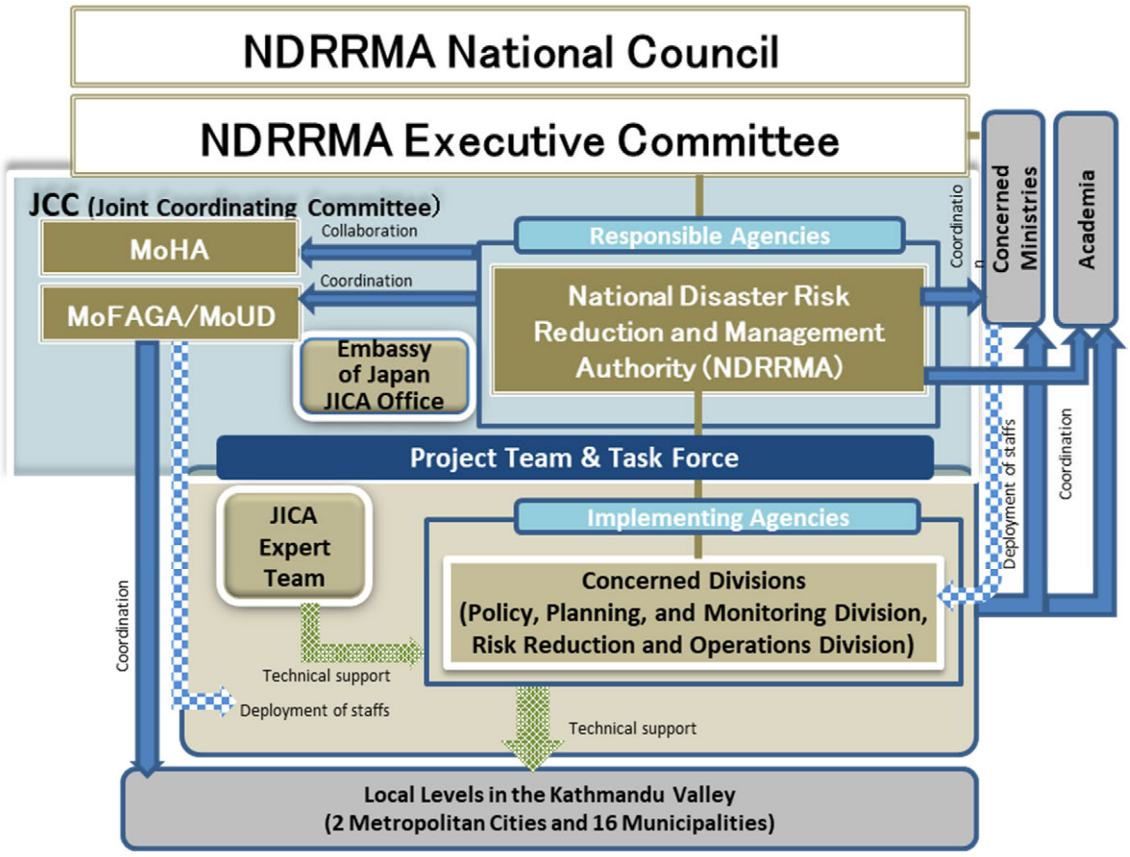
4) Other Related Agencies

Concerned Ministries and 18 Local Levels (LLs) in the Kathmandu Valley (KV)Administrative structure of the Project

1.6.2 Administrative Structure of the Project

The implementation structure of the Project is shown below. The JCC was established with the members listed in the R/D of the Project as a decision-making organization, and the activities of the Project were

implemented in close cooperation between the C/Ps of each output and the JICA Expert Team. For Output 2 to be started with priority, a task force was formed, and this task force led the project activities.



Source: JICA Expert Team

Figure 1.6-1 Implementation Structure

Chapter 2 Result of the Project

2.1 Results of the Project

2.1.1 Input by the Japanese Side (Planned and Actual)

1) Expert Dispatch

Japanese experts were dispatched based on the Plan of Operation (PO) of the Work Plan. The assigned periods of each expert are listed, showing plan and actual in Table 2.1-1.

Table 2.1-1 Dispatch of JICA Experts

Roles		Number of Dispatch		Person Month (PM)	
		Plan	Actual	Plan	Actual
Project Management Group	Chief Advisor / Disaster Risk Governance	16	15	16.33 (6.10)	15.70 (6.00)
	Deputy Chief Advisor / Local DRR Planning / Non-Structural Measures	10	18	18.20 (7.1)	20.34 (8.13)
Output 1	DRR Institutional Development 1	9	7	8.60 (2.50)	7.03 (2.50)
	DRR Institutional Development 2 / Project Implementation Management and Coordination 2 / Social Inclusion	6	0	8.60 (4.40)	4.40 (4.40)
	Project Implementation Management and Coordination 1	6	4	6.80 (2.20)	4.88 (1.85)
	Project Implementation Management and Coordination 3	5	8	5.00 (0.00)	7.13 (0.30)
	DRR Planning / Institutional Strengthening	5	3	4.40 (2.40)	4.40 (2.80)
	DRR Institutional Development 3	5	7	5.00 (0.00)	5.27 (0.30)
Output 2	Structural Measures (Public Building) 1	10	10	7.95 (1.55)	6.65 (2.05)
	Structural Measures (Public Building) 2	7	11	6.65 (2.85)	10.12 (3.80)
	Structural Measures (Infrastructure and Lifeline) 1	7	6	5.75 (2.25)	5.12 (2.25)
	Structural Measures (Infrastructure and Lifeline) 2	5	0	7.15 (3.65)	2.20 (2.20)
	Flood DRR Measures	4	3	5.30 (2.80)	5.70 (2.90)
Output 3	Structural Measures (Local Level)	5	5	6.50 (2.80)	5.80 (2.80)
	Local DRR Operation	7	8	10.40 (5.60)	9.92 (4.55)
	Public Relation/Training Management	9	9	10.43 (5.60)	9.05 (4.55)
	Training in Japan			2.50	2.50
Total		**116**	**114**	**133.03 (50.8)**	**123.69 (49.28)**

Source: JICA Expert Team

2) Counterpart Training and Invitation Program

The invitation program and training in Japan are significant activities for the smooth implementation of the Project. These programs are extended to the C/Ps for them to understand the DRR strategies and system in Japan and enhance communication among them to achieve the Project's purpose. The programs were planned to enable understanding of the roles and responsibilities of each level of government (Federal, Province, and Municipality), and coordination related to DRR. In addition, the trainings in Japan were conducted for C/Ps, task force members and mayors/deputy mayors of 18 LLs in the KV to understand the DRR administration and planning in Japan and enhance their capacity for DRR.

Three training sessions and one invitation program in Japan were held to learn specific knowledge and technical approaches of Japan, which would be directly utilized to implement the activities, as shown in the table below. It particular, 13 mayors or deputy mayors from 18 LLs participated in total, which was effective in the project implementation and in strengthening the resilience of the entire Kathmandu Valley.

Table 2.1-2 Outline of the Training and Invitation Programs

	Title	Number of Participants	Period of Training
1st training	Disaster Risk Reduction and Management System and Plan	8	February 26, 2023, to March 11, 2023
2nd training	Disaster Risk Reduction and Management System and Plan	8	August 22, 2023, to August 31, 2023
Invitation program	Disaster Risk Reduction and Management System Planning and Investment in Japan	5	November 4, 2023, to November 10, 2023.
3rd training	Disaster Risk Reduction and Management System and Plan	11	February 5, 2024, to February 17, 2024

Source: JICA Expert Team

The objectives and visited sites of the training and invitation programs are shown in the table below. To achieve these objectives, the schedule of the training was decided, including lectures from each level of government (Central, Prefectural and Local), site visits to recognize the importance of investing in DRR.

Table 2.1-3 Overview of Objectives and Visit Sites of Training and Invitation Programs

	Objectives of the Training and Invitation Programs	Visited Sites of the Training and Invitation Programs
1st training 2nd training 3rd training	Share Japan's expertise and experience in disaster risk reduction (DRR) administration and planning, fostering participants' understanding of DRR and their recognition of the importance of investing in DRR.	**Central Level** • Cabinet Office (CAO) • Ministry of Land, Infrastructure, Transport and Tourism (MLIT) • Japan Meteorological Agency **Prefecture Level** • Nagano Prefecture • Yamanashi Prefecture • Kumamoto Prefecture **City Level** • Nagano City • Hokuto City • Mashiki town • Honjo Life Safety Learning Center etc.
Invitation program	To provide participants with a comprehensive insight into Japan's DRR governance, risk evaluation, community-level DRR planning, and practical reduction measures. Furthermore, it seeks to highlight the essential role of DRR investment.	**Central Level** • CAO • MLIT **Prefecture Level** • Hyogo Prefecture **City Level** • Kobe City • Sumida City • Zenpukuji river Discharge Channel

Source: JICA Expert Team

3) Equipment Provision

The list or equipment is shown in the table below.

Table 2.1-4 List of Equipment

Equipment	Quantity	Remarks
Desk	18	For the project office
Chair	18	For the project office
Desktop computer, including Microsoft Office and Anti-virus software	2	For the project office
Laptop computer, including Microsoft Office and Anti-virus software	4	For the project office
A3 multi-function printer	1	For the project office

Source: JICA Expert Team

2.1.2 Input by the Nepalese Side (Planned and Actual)

1) Counterpart Assignment

NDRRMA was assigned to the counterpart personnel from NDRRMA's respective department.

Table 2.1-5 The Number of Counterpart Assignment

Name of equipment		Number of People	
		Plan	Actual
Project Director		1	1
Project Manager		1	1
Task Force	Output 1	3	6
	Output 2	3	6
	Output 3	3	6
Total		**11**	**20**

Source: JICA Expert Team

2) Provision of Office

NDRRMA has very limited office space and cannot provide office space.

3) Other items borne by the counterpart organization

None

2.1.3 Activities (Planned and Actual)

1) Output 1

Activity 1-1 Develop an Institutional Development Plan (IDP) for NDRRMA

The legal framework relevant to DRM and the O&M survey have been reviewed by the JICA Expert Team and incorporated into a Draft IDP by March 2022. This was further reviewed, given the Nepalese context, by engaging a local expert.

Activity 1-1-1 Discuss and endorse a formulation framework of IDP

The JICA Expert team defined the Institutional Development Plan, where "Organization" means structure, group of people, and process of decision making, while "Institution" has a bigger picture, including rules, incentives, enforcement mechanism, and network or environment of the organization.

The process for formulating the IDP followed the following steps.

1. Collect data and information
2. Interview with internal and external groups
3. Assess current performance
4. Identify goals and vision of NDRRMA
5. Formulation of intervention strategies and actions
6. Circulate the draft plan to key stakeholders for review and edit
7. Implementation

A draft outline for a formulation framework of IDP was proposed by the JICA Expert Team in an online meeting and endorsed by NDRRMA. In the framework, the primary focus was given to the items

stipulated in the Disaster Risk Reduction and Management Act as the function, duty, and right of the NDRRMA, so that critical capacities of the NDRRMA could be identified.

Activity 1-1-2 Identify the capacity gaps of the authority to perform the required function, duty, and right

The contextual analysis matrix is the basis of IDP development and is necessary to find the gap between the current situation and the expected situation based on the Disaster Risk Reduction and Management Act, 2074, and Disaster Risk Reduction and Management Rules, 2076 (2019). The JICA Expert Team presented the matrix, and the NDRRMA reviewed and filled in the matrix. A workshop with the JICA Expert Team and key NDRRMA staff was organized in September 2021 to finalize the contextual analysis matrix. The expected situation of NDRRMA and gaps with the current situation were further augmented through the review of relevant policy documents and interviews with relevant officials of NDRRMA.

The capacity gaps were assessed based on institutional analysis and incorporated into the draft IDP by March 2022. This was further reviewed, given the Nepalese context, by engaging a local expert.

Activity 1-1-3 Draft an IDP

Based on the capacity gaps of NDRRMA as identified above, an IDP has been drafted prepared by the JICA Expert Team, with a series of actions/intervention by analyzing the gaps between the current situation and the future status that NDRRMA is expected to achieve to effectively play its role in DRR.

The draft IDP was prepared by the JICA Expert Team with a series of actions/interventions to be made to fulfil the expected roles and responsibilities identified based on a review of DRR-related legal and policy documents. The draft IDP was presented and endorsed by the Second JCC held in March 2022.

The draft has been further reviewed in the Nepalese context by engaging a local expert based on interviews with DRR champions of Nepal and has been submitted to NDRRMA on September 8, 2022. The NDRRMA shared the drafted IDP with the relevant government agencies for their feedback.

The JICA Expert Team incorporated the feedback and submitted the final draft of the IDP, together with the Humann Resource Development Plan as an appendix to the IDP, to the NDRRMA. The NDRRMA shared the final draft of the IDP with the relevant government agencies in 2023 to get their feedback. For facilitating their feedback, the IDP was translated into Nepali and shared with the NDRRMA. The JICA Expert Team revised the drafts of the IDP and the HRDP based on the feedback and handed them over to NDRRMA on January 23, 2024. The NDRRMA further provided their comments, which were addressed in the final version submitted by the JICA Expert Team to the NDRRMA on February 28, 2024.

The outline of IDP is as follows.

Outline of Institutional Development Plan

1. INTRODUCTION
   1.1 Background
   1.2 Definition
   1.3 Objectives and Targets
2. APPROACH
   2.1 Overall Approaches
   2.2 Legal and Policy Provisions
3. INSTITUTIONAL ASSESSMENT
   3.1 Current Ecology
   3.2 Expected Outcomes
4. INTERVANTIONS / ACTIONS
   4.1 Actions to be taken
   4.2 Proposed Institutional Set-up
5. FINDINGS
6. CONCLUSION AND RECOMMENDATION

Appendices:
1. Discussion Material and Inputs provided in the Contextual Analysis, 29 September 2021
2. Roles and Responsibilities of NDRRMA under Legal and Policy Documents
3. Overall Implementation Schedule
4. Experiences of DRR Governance in Japan
5. Human Resource Development Plan (HRDP)

Activity 1-1-4 Draft DRR Budget Management Framework in accordance with current budget system

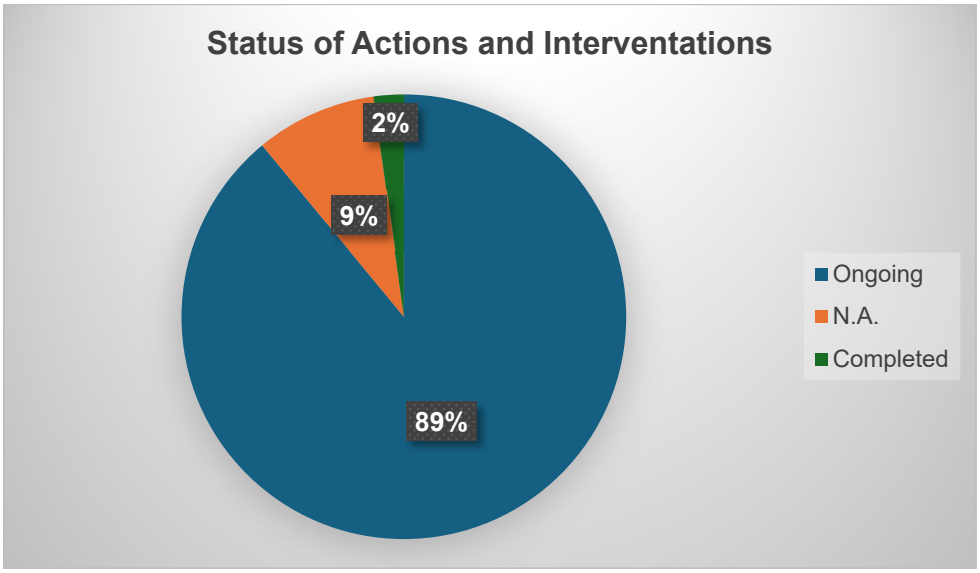
The information on the framework for budget application in Nepal was collected and reviewed. The NDRRMA and JICA Expert Team agreed that the DRR Budget should be treated within the existing budget system, and no specific framework would be required. This sub-activity was integrated into Activities 1-3 to 1-5.

Review of Implementing Status of IDP

Following the development of the IDP, the NDRRMA and JICA Expert Team checked the implementation status of the IDP.

(1) Current Status

Out of 91 actions/interventions, 81 have been already initiated. The majority of actions are marked as ongoing indicating continuous implementation in progress, and some actions are marked as completed such as BIPAD portal user handbook and public awareness programs. A few actions are marked as N.A.



Source: JICA Expert Team

Figure 2.1-1 Status of Actions and Interventions of IDP

Significant strides have been made in risk assessment, risk communication, including the institutionalization of the BIPAD Portal, early warning system, and inter-agency coordination, all of which have contributed to building resilience. Even though those initiatives are in their initial stages.

The following two actions/interventions in Area 2 and 11 marked as completed.

[Area 2] Expected Outcome: Information on the Multi Hazard Risk Assessment Maps will be shared by the NDRRMA with the concerned ministries, departments, and agencies for its incorporation into sectoral development plans and projects.

- *Publicize the BIPAD portal to concerned stakeholders and provide guidance on how the portal can be used.*

[Area 11] Expected Outcome: Suggestions and guidance to further improve private sector and community involvement in DRR will be provided to provincial and local governments, and their implementation will be monitored by NDRRMA.

- *Coordinate with local governments to provide capacity development activities, including preparedness planning and disaster drills at the community level.*

BIPAD Portal has been developed and integrated as centralized disaster information system, including hazard maps, real time data, and an early warning system. As for the capacity development of the local governments, the NDRRMA conducted training for 1162 officials of 392 local governments of 49 districts. The participating officials were disaster section heads, DRR focal persons, IT and technicians, engineers, and security personnel.

It should be noted that the NDRRMA has formulated progressive legal and regulatory frameworks. It includes a wide range of laws, regulations, guidelines, and policies designed to prevent, prepare for, respond to, and recover from disasters such as the Post Disaster Recovery Framework, The Guideline of Local Disaster and Climate Resilience Framework (LDCRF), Gender Equality, Disability, and Social

Inclusion (GEDSI) strategy, disaster management communication strategies, etc.

While significant progress has been made in certain areas of actions and interventions, there are 8 areas that include actions/interventions marked as no progress as follows.

[Area 7] Expected Outcome: Technical requirements for safe public buildings and infrastructure will be examined by concerned ministries, departments, and agencies under technical suggestions of the NDRRMA.

- *Support the enforcement and periodic update of the national building code and local bylaws by suggesting necessary measures to the National DRRM Committee.*
- *Coordinate with relevant authorities to develop model resilient infrastructures.*

[Area 14] Expected Outcome: Technical and financial support for the recovery of livelihoods as well as psycho-social conditions of the people affected by disasters will be provided by the NDRRMA in coordination with concerned ministries, departments, agencies, and local governments.

- *Provide technical and financial support for socio-economic recovery in disaster-damaged areas.*

[Area 15] Expected Outcome: Research and capacity development on disaster risks, disaster prevention, preparedness, search and rescue, as well as post disaster recovery, rehabilitation, and reconstruction will be promoted.

- *Establish and manage the newly established research institute with human resources, facilities, and budget.*

[Area 16] Expected Outcome: Capacity development and awareness raising on DRR will be promoted through the formulation and periodical updates of training and certification programs for the construction of buildings and infrastructure. Disaster risk will be incorporated as a subject in the curriculum of school and the higher levels of education under the technical suggestions of the NDRRMA.

- *Establish and manage a museum with human resources, facilities and budget.*

[Area 19] Expected Outcome: The basis for Risk Transfer Mechanism, including Risk Creator Pays Principles and Benefit Sharing Principle, will be laid out by studies on their feasibility and detailed mechanisms conducted by the NDRRMA in coordination with relevant organizations.

- *Develop and manage the system.*

[Area 20] Expected Outcome: Programs for the Social Protection Mechanism about disaster damage will be discussed and prepared by the concerned ministries and departments under the facilitation of the NDRRMA.

- *Identify the target disasters and the target people which will be covered by insurance.*
- *Develop damage assessment methods for insurance products.*

In the case of Area 7: Building Standards, Area 14: Social Protection, and Areas 19 and 20: Disaster Insurance, the lack of human resources related to NDRRMA and the lack of efforts to collaborate with related professional organizations may be the cause of the impediments to its activities. As for Areas 15 and 16, budgetary constraints for the development and maintenance of the organization and museum are the cause.

(2) Contribution of the Project

In addition to supporting the formulation of the IDP, the Project has supported the development of a High-priority DRR project list based on the earthquake disaster risk assessment for the Kathmandu Valley (Output 2), the development of Guideline for the formulation of the Local Disaster and Climate Resilience Framework (LDCRF) (Output 3), coordination with relevant agencies in monitoring progress of the DRR-NSPoA (Output 1), and the development and dissemination of a Gender and Social Inclusion (GEDSI) strategy (report developed as part of the work on the Covid-19 pandemic).

The Project supported the risk assessment of the Kathmandu Valley and prepared the high-priority DRR project list in Kathmandu Valley. The Project conducted the inter-agency coordination meetings with the relevant ministries for the implementation of high-priority DRR projects.

The Guideline of Local Disaster and Climate Resilience Framework (LDCRF) has been developed in support of the Project, which was approved by the 32nd Executive Committee held on the 3rd of May, 2024. After conducting the dissemination workshops, the guideline of LDCRF has been distributed to all the local levels across Nepal, including six metropolitan cities, 11 sub-metropolitan cities, 276 municipalities and 460 rural municipalities. It is expected that the LDCRF will be the milestone for the DRR planning and implementation in the local governments.

The Project has also supported intergovernmental coordination during the monitoring of Disaster Risk Reduction National Strategic Plan of Action (DRR-NSPoA) 2018-30. The Project has supported the organization of workshops and communications to collect progress on DRR-NSPoA. The purpose of monitoring is to assess the status of the action plan implementation and identify necessary corrective actions for improvement to achieve the overall targets of the DRR-NSPoA.

Activity 1-2 Develop a Human Resource Development Plan (HRDP) for NDRRMA

Activity 1-2-1 Discuss and endorse a formulation framework of HRDP

The JICA Expert Team discussed the overall framework of HRDP in an online meeting with the NDRRMA held on April 15, 2022. The NDRRMA agreed that the HRDP would be formulated based on the IDP, and activities of the HRDP would be examined considering the required competencies of NDRRMA.

Core competencies for the NDRRMA were assessed based on the activities identified in the draft IDP and presented to NDRRMA on July 6, 2022, and the framework of HRDP was agreed upon. Training activities required to achieve the core competencies will be further identified and discussed with the NDRRMA for the formulation of the HRDP.

Activity 1-2-2 Identify gaps between current and ideal capacity which is required for NDRRMA to implement IDP and form the HRDP

A gap analysis was completed by the NDRRMA and the JICA Expert Team. Based on the gap analysis, the required competencies of the NDRRMA staff were identified. There are twelve competencies: two core competencies and ten functional competencies. The required competencies for the NDRRMA staff are shown in the table below.

Table 2.1-6 Required Competencies for the NDRRMA

Core Competencies
1. Developing basic administrative skills for service delivery
2. Developing basic knowledge on DRRM
Functional Competencies*
3. Developing inter-organizational networking and coordination (2, 3, 6)
4. Supporting to develop DRRM related policy (6)
5. Providing technical inputs for disaster resilient structures (7, 8)
6. Developing financial mechanism for DRRM (19, 20, 21)
7. Promoting disaster preparedness (9, 10, 11)
8. Strengthening emergency response operations (5, 12)
9. Preparing hazard monitoring and Impact based on early warning (17, 18)
10. Assisting recovery and reconstruction (13, 14)
11. Strengthening capacity of human resources on DRRM (4, 15, 16)
12. Developing multi-hazard risk assessment (1)

* Figures in the brackets refer to the expected situations of the NDRRMA identified in section 3.2 of the Institutional Development Plan (IDP).

Source: JICA Expert Team

It is said in the Decision No 8. of the 7th meeting of Disaster Risk Reduction and Management National Council[1] held on August 10, 2021 that Organization and Management (O&M) survey of NDRRMA would be carried out with the provision of minimum 4 directorates and other necessary structure and human resources to make it stronger, capable and effective. The identified 4 directorates are;

a) Risk Reduction and Early Warning System
b) Disaster Response
c) Reconstruction and Rehabilitation
d) Research, Investigation and Training

In addition, the JICA Expert Team suggested to the Executive Office in the NDRRMA should be a coordination body of communications among federal agencies, provincial, and local governments.

Training programs should be formulated based on each division's required competencies and gaps identified by survey and interview. Implementation schedule is proposed in the HRDP from 2023 to 2030, and it is divided into short term (2023-2025) and mid-term (2026-2030).

[1] The National Council for Disaster Risk Reduction and Management is the highest decision-making body for disaster management in Nepal. Chaired by the Prime Minister, it includes key ministers, the Leader of the Opposition, all provincial Chief Ministers, senior officials, security chiefs, and nominated disaster management experts. (Chater2, Disaster Risk Reduction and Management Act, 2074)

The draft HRDP was developed and shared with the NDRRMA in March 2023. The feedback from the NDRRMA was incorporated, and it was integrated into the IDP as an appendix.

Activity 1-2-3 Conduct capacity development activities following the HRDP

Capacity development activities have been implemented with linkage to activities 1-3 to 1-5. The NDRRMA and JICA Expert Team have identified the activities that have already been initiated and those have not.

(1) Current Status

For all twelve core and functional competencies defined in the HRDP, relevant training courses are made available, and some of them have already been taken by the NDRRMA officers.

For developing basic administrative skills for service delivery, all NDRRMA personnel are participating in training provided by the National Administrative Staff College (NASC).

Regarding competencies related to DRR expertise, NDRRMA has developed an Introductory Course on Disaster Risk Reduction and Management (DRRM). This course is designed for e-learning, making it more accessible. Comprising four modules and 15 sessions, it enhances competencies in areas such as inter-organizational coordination, DRR policy planning, technical input for disaster-resilient structures, financial support strategies for disaster prevention, and preparedness. This course is recommended not only for NDRRMA personnel but also for federal and local government officials and NGOs, contributing to the overall improvement of Nepal's disaster management capabilities.

For strengthening disaster response capabilities and research collaboration with universities and NGOs, the NDRRMA-led BIPAD system is being utilized. However, NDRRMA acknowledges that efforts in scientific research and education related to disaster management are still insufficient.

(2) Contribution of the Project

The Project provided support to HRDP in the development of a monitoring mechanism for DRR-NSPoA (Area 4), support for efforts to incorporate gender equality and social inclusion perspectives into disaster management, and training of NDRMA officers and executives in Japan.

Activity 1-3 Organize coordination meetings with concerned ministries, the NPC, and the OPMCM for mainstreaming DRR into the Annual Work Plan in line with the DRR National Strategic Plan of Action

Activity 1-3-1 Contact relevant ministries and authorities to explain the DRR National Strategic Plan of Action

In order for relevant ministries and agencies to incorporate DRR projects into their annual work plans, the NDRRMA and JICA Expert Team agreed to identify high-priority DRR projects based on the results of the risk assessments and to coordinate with the concerned ministries according to the high-priority project list.

The NDRRMA and JICA Expert Team selected the high-priority DRR projects, which are shown under Activity 2-5. As high-priority DRR projects, 32 schools, 13 health facilities, eight governmental

facilities, and four bridges have been identified. The high-priority DRR projects were discussed and agreed with CLPIU and MoHP for the school and health facility, respectively. The high-priority DRR projects of government buildings at the local level were identified based on criteria and the discussions among the NDRRMA, the responsible ministries, and local governments. At the end of December 2021, the NDRRMA and JICA Expert Team submitted the letter listing the four vulnerable bridges as the Priority Project List for Bridges to the DoR. In response to the letter, DoR replied with the acceptance letter on Feb. 4, 2022, after consultation with MoPIT. The NDRRMA and JICA Expert Team approached those ministries and departments to implement those high-priority DRR projects by including an annual budget proposal.

The NDRRMA and JICA Expert Team approached the Ministry of Finance (MoF) to explain the high-priority DRR projects and seek financial options. The joint secretary of International Economic Cooperation and Coordination Division of MoF commented that the high-priority DRR projects should have approval/endorsements from the MoHA for the funding of their implementation. Therefore, the high-priority DRR projects should be approved/endorsed by the MoHA.

Activity 1-3-2 Organize the coordination meetings

During discussions with ministries and departments, those organizations understood the importance of the high-priority DRR projects in Kathmandu Valley, but the priority projects in those organizations had already been identified by the ministries and departments covering the whole of Nepal. It was initially found that it would be difficult to include all high-priority projects at once in the annual budget. The NDRRMA needs to continuously coordinate with relevant ministries and agencies to secure budgets for high-priority projects.

Activity 1-4 Organize coordination meetings to share the progress of implementation and monitoring of the DRR National Strategic Plan of Action among concerned ministries and agencies

The NDRRMA and JICA Expert Team have agreed that coordination meetings should be held on an as needed basis during the annual monitoring and reporting process of the DRR National Strategic Plan of Action 2018-2030 (DRR-NSPoA), with the common understanding that the progress monitoring will naturally encourage the action owners to incorporate the actions, i.e., DRR projects, into their annual work plans.

In this regard, the Activities 1-4 and 1-5 focused on establishing a monitoring process of DRR-NSPoA rather than holding coordination meetings.

Activity 1-4-1 Prepare to organize the coordination meetings

Disaster Risk Reduction National Strategic Plan of Action 2018-2030 (DRR-NSPoA) was enforced by the sanction of the executive committee as per the Disaster Risk Reduction and Management Act 2017, Section 8c. According to the action plan, there is a provision to discuss the implementation, monitoring, review, and revision of this strategic action plan in the executive committee at least once a year in February.

Moreover, the Disaster Risk Reduction and Management Act 2074 and the Disaster Risk Reduction and Management Rules define the functions, duties, and powers of the National Council, Executive Committee, NDRRMA, Provincial Disaster Management Committee, District Disaster Management Committee, and Local Disaster Management Committee. Based on the legal framework, the basic principles to be applied to the monitoring of the DRR-NSPoA can be summarized as follows:

- The Executive Committee is primarily responsible for the monitoring of the implementation of the disaster risk reduction and management activities in general, including the DRR-NSPoA.
- The NDRRMA, as the secretary of the Executive Committee, should prepare an annual report for monitoring DRR-NSPoA by compiling the inputs provided by the stakeholders.
- The annual report for monitoring DRR-NSPoA should be presented to the Executive Committee and the Council by February every year and then made public.
- The monitoring of DRR-NSPoA should be part of the annual reporting process from local to province levels after each fiscal year, as defined in the Disaster Risk Reduction and Management Rules.
- The NDRRMA should proactively work with the local, district and province disaster management committees.

Based on these principles, the JICA Expert Team proposed to NDRRMA to bring this topic of monitoring DRR-NSPoA on the agenda of the Executive Committee meeting for launching the next monitoring cycle starting after the end of the previous fiscal year in mid-July 2023. The NDRRMA and JICA Expert Team started monitoring DRR-NSPoA after the end of the 2022/2023 fiscal year.

Through the exercise, the monitoring and reporting process has been established in accordance with the relevant laws and regulations. The annual process is summarized in the figure below.

Plan of Operation of Annual Monitoring & Reporting of DRR-NSPoA End of FY

	Action	Focal Person/ Section	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Prepare next year progress reporting in Internal meeting of TWG at NDRRMA	Informarion Section of NDRRMA												
2	Contact the focal persons in the relevant Ministries & Orgs. to set up JM	Information Section of NDRRMA												
3	Organize WSs w/ relevant Ministries, Orgs. PGs, and LGs	Information Section of NDRRMA												
4	Issue Request Letter to 1) Federal level Ministries & Orgs. 2) 7 Province Governments 3) 753 Local Governments	Information Section of NDRRMA												
5	Distribute progress report form to relevant Minis & Orgs, PGs and LGs Follow-up stakeholders and support them	Information Section of NDRRMA												
6	Produce progress reports to NDRRMA by Minis. & Orgs, PGs, and LGs	Concerned Ministries, Orgs., PGs, LGs												
7	Analyze collected data/reports and produce draft report	Infromation Section of NDRRMA												
8	Conduct internal sharing meeting among TWG and verify the report	Information Section of NDRRMA												
9	Revise the report and present it to the Executive Committee	Information Section of NDRRMA												
10	Report to the National Council by NDRRMA through the EC	NDRRMA												

Source: JICA Expert Team

Figure 2.1-2 Plan of Operation of Annual Monitoring and Reporting of DRR-NSPoA

Activity 1-4-2 Organize the coordination meetings

The NDRRMA and JICA Expert Team have held coordination meetings as necessary with concerned ministries and departments, along with the annual reporting and monitoring cycle for DRR-NSPoA.

Activity 1-5 Organize coordination meetings with the OPMCM, the MoHA, the MoFAGA, and the NPC in the progress of implementation and monitoring of the DRR National Strategic Plan of Action for the provincial governments, districts, and local levels among NDRRMA on a regular basis

As described above, the Activity 1-5 focused on establishing a monitoring process of DRR-NSPoA rather than holding coordination meetings.

Activity 1-5-1 Prepare to organize the coordination meetings

The NDRRMA and the JICA Expert Team developed a progress monitoring report format to understand the progress of DRR-NSPoA in provincial governments, districts, and local governments, for starting the trial progress monitoring in February 2023. The NDRRMA and JICA Expert Team distributed it to all provincial governments, districts, and local governments (seven provinces, 77 districts, and 753 local governments) via e-mail and requested support to OPMCM and MoFAGA since OPMCM has a responsibility of provincial disaster management committee and MoFAGA oversees local disaster management committee.

Disaster Risk Reduction National Strategic Plan of Action 2018 – 2030			Monitoring of Disaster Risk Reduction National Strategic Plan of Action 2018 – 2030																																				
			Policy/Plan/Regulations/Guideline																		Implementation																	
			Federal Government					Other agency	Provincal Government					Other agency	Local Government					Other agency	Federal Government					Other Agency	Provincal Government					Other Agency	Local Government					Other agency			
Priority Area	Strategic Activity	Expected Outcome	Name of the Policy/Plan/Regulations/Guideline	Name of the Ministry/Department	Budget(in lakhs with Budget code) if available	Phase	Issues & Challenges		Name of the Policy/Plan/Regulations/Guideline	Name of the Ministry/Department	Budget(in lakhs with Budget code) if available	Phase	Issues & Challenges		Name of the Policy/Plan/Regulations/Guideline	Name of the Ministry/Department	Budget(in lakhs with Budget code) if available	Phase	Issues & Challenges		Name of the Project	Name of Ministry/Department	Budget(in lakhs with Budget code) if available	Phase	Issues & Challenges		Name of the Project	Name of Ministry/Department	Budget(in lakhs with Budget code) if available	Phase	Issues & Challenges		Name of the Project	Name of Municipality/ Department	Budget(in lakhs with Budget code) if available	Phase	Issues & Challenges		Remarks	Contact Person (Phone Number)	Phone Number or Email
1 Understanding Disaster Risk	Establish Real Time Road Surveillance System in potential areas of roads accident	Real-time information on road accidents will be available																																				
	Hazard Assessment, mapping and delineation of hazardous zone by identifying potential areas of road accident and make them available publicly	Hazard map of the road accident will be available																																				
	Establish Real Time Outbreak and Disease Surveillance System	Real-time information on epidemics will be available																																				
	Hazard assessment, mapping and delineation of hazardous areas for epidemics prone areas and make them available publicly	Epidemic Hazard Map will be available for epidemic prone areas																																				
	Assess the exposure and vulnerability on the basis of sex, age and disability in epidemic prone areas using geo- spatial technology and make them available publicly	Disaggregated data of epidemic exposure and vulnerability will be available																																				
	Complete the epidemic risk assessment and mapping for epidemics prone areas and make them available publicly	Information on epidemic risk level(High, medium and average) in an open source format will be available publicly																																				
	Expand and modernize nationwide network of Real-Time Earthquake Monitoring System	Continuous earthquake information will be available nationwide																																				
	Assessment, Mapping and delineation of hazardous areas of earthquake hazard and make them available publicly	Earthquake hazard assessment and maps will be available at national and local level																																				
	Assessment, Mapping and delineation of hazardous areas of soil liquefaction and make them publicly available	Soil liquefaction assessment and maps will be available at federal, province and local level																																				
	Assess geo- referenced earthquake exposure and vulnerability for earthquake prone infrastructures, and shelters based on sex, age and disability and make them available publicly	The disaggregated data of earthquake exposure and vulnerability will be available																																				
	Earthquake Risk Assessment and mapping of the earthquake vulnerable infrastructures, historical and cultural heritages, shelters, school, hospitals, health posts, and water supply structures and make them available publicly	Information on earthquake risk level (High, medium and low) in an open source format will be available publicly																																				
	Prepare earthquake risk sensitive land- use plans and make them available publicly	The earthquake risk sensitive land use plans will be available																																				
	Establish Real –Time Landslide Monitoring System and make it publicly available	Real-time information on landslide will be available																																				
	Hazard assessment, mapping and delineation of the major landslide prone areas and make them available publicly	Landslide hazard map will be available																																				
	Assess geo referenced exposure and vulnerability of landslide prone infrastructures, and shelters based on sex, age, and disability and make them available publicly	Disaggregated data of landslide exposure and vulnerability will be available																																				
	Landslide risk assessment and mapping for vulnerable infrastructures, shelters, school, hospitals, health posts and water supply structures and make them available publicly	Information on landslide risk level (High, medium and low) in an open source format will be available publicly																																				

Source: JICA Expert Team

Figure 2.1-3 Progress Monitoring Report Format

Activity 1-5-2 Organize the coordination meetings

The NDRRMA and the JICA Expert Team developed a format for progress monitoring and distributed it to all concerned ministries, departments, and other agencies (21 ministries, seven departments, 21 other agencies), and launched a trial process to track the progress of DRR-NSPoA in February 2023.

Coordination meetings were held with MoFAGA, MoHA, NDRRMA, Municipalities (Mahalaxmi and Thimi Municipality), Lalitpur District, and Bagmati Province from March 22 to June 23, 2023.

(1) Trial Monitoring Exercise

As stated above, the NDRRMA and JICA Expert Team have developed a format for progress monitoring, distributed it to all concerned ministries, departments, and other agencies (21 ministries, seven departments, 21 other agencies), and launched a trial process to track the progress of DRR-NSPoA in February 2023.

Table 2.1-7 Letter & Email Correspondence

Letter/Email		Date	Via.
Date of Letter Dispatched		2023/02/08	Letter
		2023/02/14	Email
Email Correspondence		2023/02/17	Reminder Email, including instruction to fill up the form.
		2023/03/13	Reminder Email
		2023/03/24	Reminder Email
		2023/04/25	Reminder Email
SN	**Summary**	**Total Count**	**Submitted**
1	Ministry	21	Hard Copy of Letter, Activities/Email
2	Department	7	Hard Copy of Letter, Activities/Email
3	Authority	1	Hard Copy of Letter, Activities/Email
4	Province	7	Soft Copy of Letter, Activities in Email
5	District	77	Soft Copy of Letter, Activities in Email
6	Local government	753	Soft Copy of Letter, Activities in Email
7	Other Agencies	21	Hard Copy of Letter, Activities/Email
	Total	**887**	

Source: JICA Expert Team

Follow-up meetings were held at MoFAGA, MoHA, and NDRRMA on the following dates regarding the progress report on DRR activities included in the DRR-NSPoA Monitoring Sheet. Training was also provided to NDRRMA Staff on filling out the Excel sheet progress on DRR activities of NDRRMA as included in DRR-NSPoA 2018-2030.

Table 2.1-8 Follow Up / Visit Status

SN	Ministries	Date	Follow-up/Meetings with
1	MOFAGA	2023/03/22	Under Secretary MOFAGA
2	MOHA	2023/03/24	Under Secretary, Disaster Risk Reduction and Recovery Section, MOHA Section Officer
3	NDRRMA	2023/03/24	Section Officer, NDRRMA
4	NDRRMA	2023/04/03	Training was provided to NDRRMA staff on how to complete the DRRNSP Monitoring sheet. Under Secretary, NDRRMA 6 Section Officers, NDRRMA
5	MOHA	2023/04/04	Section Officer
6	NDRRMA	2023/04/25	Section Officer, NDRRMA
7	MOFAGA	2023/06/14	Under Secretary MOFAGA
8	Mahalaxmi Municipality	2023/06/14	Engineer, Environment and Disaster Management Section
9	Madhyapur Thimi Municipality	2023/06/15	Division Head, Urban Development and Planning Division
10	Ministry of Internal Affairs and Law (Bagmati Province)	2023/06/19	Secretary, MoIAL, Bagmati Province Under Secretary, MoIAL, Bagmati Province Officer, MoIAL, Bagmati Province Officer, MoIAL, Bagmati Province Officer MOALD Section Officer, NDRRMA NDRRMA, NHSRP NDRRMA, NHSRP Under Secretary, Ministry of Physical Infrastructure and Development Section Officer, Ministry of Social Development 6th Level Section officer, Ministry of Water supply, energy and Irrigation 6th Level Section officer, Ministry of Forest and Environment 6th Level Section officer, Ministry of Industry, Tourism and Cooperative Section Officer, Ministry of finance and Planning

Source: JICA Expert Team

The JICA Expert Team and NDRRMA conducted a series of follow-up interviews and coordination meetings to understand the current situation and practices regarding monitoring and reporting on the DRR activities in general, especially the DRR-NSPoA.

Table 2.1-9 Follow-up Interviews and Coordination Meetings

Institution	Date	Major topics
MoFAGA	2023-06-13	▪ Simplified monitoring / reporting format developed by MoFAGA for municipalities ▪ Alignment of MoFAGA format and NDRRMA format
Mahalaxmi Municipality	2023-06-13	▪ Current reporting practice for DRR activities ▪ Introduction of NDRRMA format
Madhyapur Thimi Municipality	2023-06-15	▪ Ditto
Bagmati Province	2023-06-18	▪ Ditto
Lalitpur District Administrative Office	2023-06-23	▪ Ditto

Source: JICA Expert Team

a) Results of Trial Monitoring Exercise

Responses were received from ten institutions, including two ministries, four departments, two district administration office, one from Nepal Rastra Bank and one from Nepal Army and Police. The following is the list of stakeholders stated as Responsible Agencies for the DRR activities in DRR-NSPoA 2018-2030, and the status of responses.

Table 2.1-10 List of Responsible Ministries/ Departments/ Agencies

SN	Ministry/Departments	Category	Count	Response
1	Office of Prime Ministers and Council of Minister	Ministry	1	
2	Ministry of Home Affairs	Ministry	1	
3	Ministry of Foreign Affairs	Ministry	1	
4	Ministry of Defense	Ministry	1	
5	Ministry of Land Management, Cooperatives and Poverty Alleviation	Ministry	1	
6	Ministry of Agriculture and Livestock Development	Ministry	1	Received
7	Ministry of Finance	Ministry	1	
8	Ministry of Forest and Environment	Ministry	1	
9	Ministry of Water Supply	Ministry	1	
10	Ministry of Urban Development	Ministry	1	Received
11	Ministry of Industry, Commerce and Supplies	Ministry	1	
12	Ministry of Physical Infrastructure and Transport	Ministry	1	
13	Ministry of Energy, Water Resources and Irrigation	Ministry	1	
14	Ministry of Federal Affairs and General Administration	Ministry	1	
15	Ministry of Health and Population	Ministry	1	
16	Ministry of Education	Ministry	1	
17	Ministry of Communications and Information Technology	Ministry	1	
18	Ministry of Culture, Tourism & Civil Aviation	Ministry	1	
19	Ministry of Labor, Employment and Social Security	Ministry	1	
20	Ministry of Law, Justice and Parliamentary Affairs	Ministry	1	
21	Ministry of Women, Children and Senior Citizen	Ministry	1	
22	National Disaster Risk Reduction and Management Authority	Authority	1	
23	Department of Archaeology	Department	1	Received
24	Department of Urban Development and Building Construction	Department	1	Received
25	Department of Mines and Geology	Department	1	Received
26	Department of Soil Conservation and Watershed Management	Department	1	
27	Department of Water Resource and Irrigation	Department	1	Received
28	Department of Hydrology and Meteorology	Department	1	
29	Department of Forest	Department	1	
30	National Planning Commission	Other Agencies	1	
31	Universities	Other Agencies	1	
32	Institute of Engineering	Other Agencies	1	
33	Nepal Science and Technology council	Other Agencies	1	

SN	Ministry/Departments	Category	Count	Response
34	Nepal Agriculture Resource Center	Other Agencies	1	
35	Nepal Army and Police	Other Agencies	1	Received
36	Water and Energy Commission Secretariat	Other Agencies	1	
37	Federation of Nepalese Chambers of Commerce & Industry	Other Agencies	1	
38	Alternative Energy Promotion Centre	Other Agencies	1	
39	Road Board	Other Agencies	1	
40	Nepal Rastra Bank	Other Agencies	1	Received
41	National Insurance Institute	Other Agencies	1	
42	National Cooperative Development Board	Other Agencies	1	
43	Federation of Community Forest Users	Other Agencies	1	
44	Poverty Alleviation Fund	Other Agencies	1	
45	National Dalit Commission	Other Agencies	1	
46	Civil Aviation Authority of Nepal	Other Agencies	1	
47	Nepal Tourism Development Board	Other Agencies	1	
48	Health Emergency Operation Center	Other Agencies	1	
49	Central Department of Psychology	Other Agencies	1	
50	Nepal Red cross Society	Other Agencies	1	
51	Province	Province	7	
52	District	District	77	DAO Mustang, Dhadeldhura
53	Local Government	Local government	753	

Source: DRR-NSPoA

Although the overall number of responses was limited in this trial, in terms of the number of actions, 23% (61 out of total 270 actions) were responded (see table below).

Table 2.1-11 Activity and Response Received to Date

Total Number of Strategic Activity	270
Total Strategic Activity Responded	61
Percentage Activity Responded	22.6%

Source: JICA Expert Team

Out of the responses received for 61 activities, 26 (42.6%) were judged as “Completed”. 27 activities (out of 61) are planned for short-term (to be finished by 2020), and out of these 27 activities, 15 (55.6%) were “Completed”, leaving 5 (18.5%) in the status of “not done”. This indicates that about 44% of the short-term activities, which are expected to be completed by now (i.e., by 2020), have not been achieved as planned, and about 19% of them have not even been implemented to date.

Table 2.1-12 Progress Status of Responded Activities to Date

Activity status	All responded activities		Responded activities of Short-Term	
Completed	26	42.6%	15	55.6%
Partially Completed	4	6.6%	0	0.0%
In process	3	4.9%	1	3.7%
On-going	11	18.0%	6	22.2%
Not done	14	23.0%	5	18.5%
Unknown	3	4.9%	0	0.0%
TOTAL	**61**	**100.0%**	**27**	**100.0%**

Completed: *Provided information is related to the strategic activities and multiple activities are performed.*
Partially completed: *Provided information is not directly related with the activities but some tasks have been performed.*
In process: *Relevant documents have been prepared, pending for its implementation.*
On-going: *Relevant documents have been prepared, and activities are running.*
Not done: *Activity is not done yet.*
Unknown: *Cannot judge the status with the information provided.*

Source: JICA Expert Team

b) Lessons Learnt - Current Gaps and Areas of Improvement

Based on the review of the legal framework, analysis of the responses received from the stakeholders, and the interviews and coordination meetings conducted in this exercise, the current gaps and the areas to be improved were identified as follows.

General:

- The response rate was quite low (about 20%), partly because the stakeholders were not familiar with the Progress Monitoring Format, and especially the municipalities that were still not familiar with the DRR activities could have found it complicated.
  - ➢ *Consider simplifying the Progress Monitoring Format for the local level.*

At National / Federal Level:

- Most ministries and departments did not provide their response to the trial progress monitoring exercise.
  - ➢ *The Executive Committee should reiterate their responsibilities to report on the progress of the DRR-NSPoA.*
- NDRRMA produces its annual report, which does not include DRR activities of other institutions.
  - ➢ *NDRRMA should report DRR activities of all institutions at all levels across the country to the Executive Committee.*
- Currently, the DRR activities reported in the NDRRMA annual report are not linked to those defined in the DRR-NSPoA.
  - ➢ *The links should be made between the activities to identify those in the DRR-NSPoA.*

At Province, District, and Municipality Levels:

- Currently, the annual reporting process from municipality, through district, up to province, is not fully operational (according to Bagmati Province, they produce the annual report but do not

receive reports from the district or municipalities).

- ➢ *The primary focus will be given to those concerned with the KV. For the local level, monitoring activities will also be coordinated by MoFAGA.*
- ➢ *For 18 municipalities in KV, detailed progress reporting of the DRR-NSPoA will be done using the NDRRMA/JICA Team's format.*
- ➢ *MoFAGA has established a simplified online reporting system for DRR activities in the municipalities (we may suggest some improvements). For the municipalities outside KV, this system can be used for progress monitoring as a supplementary measure.*

- Like the NDRRMA annual report, the DRR activities reported in the province annual report are not linked to those defined in the DRR-NSPoA.
  - ➢ *The links should be made between the activities.*

c) Implementation of Next Monitoring and Reporting Cycle

As stipulated in the Disaster Risk Reduction and Management Rules, at the end of the next fiscal year, i.e., mid-July, the annual reporting of all DRRM activities should be produced and transferred from the local level up to the federal level. In parallel, ministries and departments should prepare their progress reports, which should be reported to the Executive Committee and the Council. The NDRRMA is to coordinate the inputs and reports from all the stakeholders. The NDRRMA and JICA Expert Team agreed on the forward actions.

The expected actions, timeline, and status are shown in the table below.

Table 2.1-13 Actions for Next Monitoring and Reporting Cycle

Action	Responsible	Timeline	Status as of Aug. 2023
Improve the progress monitoring report format based on the lessons learnt in the trial exercise and select good examples to share with the stakeholders.	NDRRMA & JET*	Until End of Jul. 2023	• The monitoring report format has been improved. • A simplified version for local level has been developed as an online form.
Prepare presentation and agenda of the Executive Committee to explain the outcome of the trial monitoring exercise and the plan for the next annual reporting cycle toward February 2024.	NDRRMA & JET	Until Mid Aug. 2023	• Ongoing discussions between NDRRMA and JET.
Start annual reporting cycle (to be completed by February 2024) - Distribute progress monitoring report forms.	NDRRMA supported by JET	Before End of Aug. 2023	• A request letter was sent to MoFAGA for local level.
Produce reports and submit them to NDRRMA through the reporting channel.	All stakeholders	From Aug. until End of Oct. 2023	• Ongoing.
Follow-up with stakeholders and support them.	NDRRMA & JET	From Aug. End of Oct. 2023	• Ongoing.
Analyze collected data/reports, produce an integrated annual report, and present it to the Executive Committee.	NDRRMA & JET	From Nov. 2023 until End of Jan. 2024	• JET has developed a draft structure of the report document and shared it with NDRRMA for comments.
Report to the Council.	Executive Committee	Feb. 2024	• Not started.

*JET: JICA Expert Team

Source: JICA Expert Team

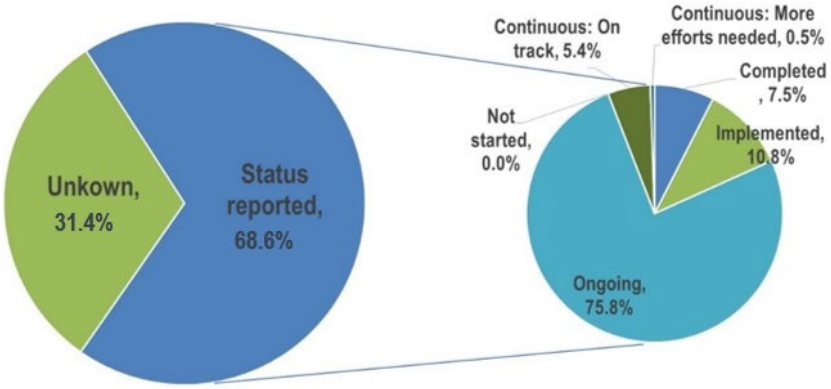
(2) Monitoring for Fiscal Year 2022/2023

The NDRRMA and JICA Expert Team started the formal monitoring process for the 2022/2023 fiscal year after the implementation of lessons learned from the initial trial (from July 2023 through to April 2024). The major lessons learned, and improvements were as follows.

- One of the major lessons was that the local levels could not provide any responses, because the Excel Template was too complicated for them considering the capacities at the local levels, according to the hearing in several municipalities in the Kathmandu Valley.
- JICA Expert Team proposed to develop and use a simple questionnaire to capture the implementation status of the strategic activities, which was accepted by NDRRMA.
- JICA Expert Team developed a questionnaire using Google Forms (online survey forms), so that the local levels could provide their responses even from their mobile phones.
- JICA Expert Team also considered the use of NDRRMA's existing systems, such as BIPAD portal and MDSA (Monitor for Disaster Strategic Action plans); however, it was difficult to utilize them considering the functions that were available at that time. Either BIPAD portal or MDSA were optimal for the purpose of collecting data for monitoring progress of DRR-NSPoA.

The request letters from NDRRMA were sent to the activity owners on 4-5 September 2023 via e-mail (and hard copies on 7-8 September 2023). After receiving the responses, the JICA Expert Team prepared the first draft of the report and submitted it to the NDRRMA in February 2024. NDRRMA reviewed it and provided their comments, which were incorporated in the final version resubmitted in April 2024. The NDRRMA did not submit the report to the Executive Committee due to the decision of the CE at the time. Some key figures are as follows.

- The progress status was reported for 68.6% of the total 271 strategic activities.
- At the federal level, responses were obtained from 16 out of 55 institutions (29.0%).
- At the local level, responses were obtained from 160 out of 753 (21.2%, significant improvement from the initial trial).
- The overall progress status of the strategic activities is as follows.



Source: JICA Expert Team

Figure 2.1-4 DRR-NSPoA Activity Status for FY 2022/2023

(3) Monitoring for Fiscal Year 2023/2024

The lessons learned from the previous cycle are as follows.

- For the federal level, the focal persons group [2] should be utilized to ensure that the implementation status is reported from the relevant institutions.
- For the local levels, the use of NDRRMA's system, such as BIPAD portal and MDSA, should be considered, as it has been recently enhanced. Further coordination and cooperation with MoFAGA should be considered as well. Primary focus should be given to the 18 municipalities in the Kathmandu Valley.
- The JICA Expert Team should transfer the knowledge of practical processes and procedures related to monitoring to NDRRMA and expect that NDRRMA will lead the activities from now on.
- The JICA Expert Team still thinks that the previous report (FY 2022/2023) could be conveyed to the Executive Committee, since we are facing difficulty due to the low awareness of the DRR-NSPoA among the stakeholders, and the Executive Committee could reiterate its importance to the stakeholders.

The monitoring process for FY 2023/2024 began in July 2024 after the preparation period from April 2024. The Plan of Operation is as follows.

PO of Annual Progress Review of DRR-NSPoA implementation in FY2023/2024 (activities from July 2023 to July 2024) — Aug. 2024

	Action	Focal Person/ Section	2024 Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	2025 Jan	Feb	Mar	Apr	Implementation Status (August 2024)
1	Prepare next year progress reporting in Internal meeting of TWG at NDRRMA	Informarion Section of NDRRMA														Coordination meetings have been organized between NDRRMA and JICA Team to define the step-by-step monitoring process.
2	Contact the focal persons in the relevant Ministries & Orgs. to set up JM	Information Section of NDRRMA														NDRRMA decided to hold a workshop for the focal persons to be familialized with the monitoring process of DRR-NSPoA.
3	Organize WSs w/ relevant Ministries, Orgs. PGs, and LGs	Information Section of NDRRMA														Workshop (focal persons, 18 minicipalities in KV) was held on July 19th.
4	Issue Request Letter to 1) Federal level Ministries & Orgs. 2) 7 Province Governments 3) 753 Local Governments	Information Section of NDRRMA														Request letters were sent out after the workshop.
5	Distribute progress report form to relevant Minis & Orgs, PGs and LGs Follow-up stakeholders and support them	Information Section of NDRRMA														Report forms were sent out to the stakeholders together with the request letters. - For federal level, a new simplified form has been developed. - For Provinces & Local Levels, continue to use Google Forms.
6	Produce progress reports to NDRRMA by Minis. & Orgs, PGs, and LGs	Concerned Ministries, Orgs., PGs, LGs														Follow up activities are ongoing.
7	Analyze collected data/reports and produce draft report	Infromation Section of NDRRMA														
8	Conduct internal sharing meeting among TWG and verify the report	Information Section of NDRRMA														
9	Revise the report and present it to the Executive Committee	Information Section of NDRRMA														
10	Report to the National Council by NDRRMA through the EC	NDRRMA														
	Internal regular meeting of TWG at NDRRMA															

Source: JICA Expert Team

Figure 2.1-5 Plan of Operation for DRR-NSPoA Monitoring for FY 2023/2024

As an improvement measure, a workshop was held on July 19, 2024, with the participation of the focal persons in the ministries and authorities at the national level, as well as the 18 municipalities in the Kathmandu Valley.

[2] All ministries have their disaster departments or units responsible for disaster management. NDRRMA maintain the contact information of these focal persons and communicate through this channel when necessary.

Table 2.1-14 Workshop Agenda (July 19, 2024)

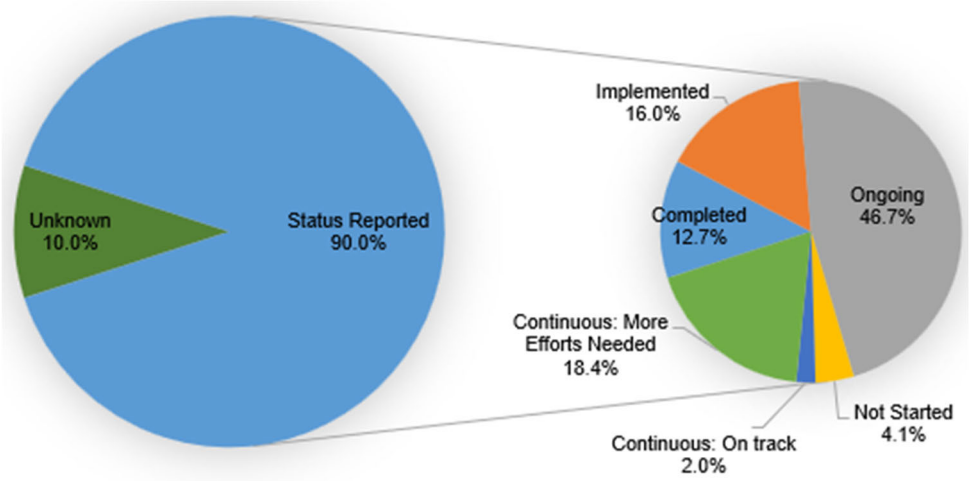
8:00-9:00	Registration and Breakfast	
9:00-9:05	National Anthem	
9:05-9:15	Self-introductions by participants	
9:15-9:25	Opening remarks	Mr. Arjun Kumar Bam, Joint Secretary NDRRMA
9:25-9:35	Remarks	Dr. Bhisma Bhusal, Joint Secretary MoHA
9:35-9:40	Remarks	Mr. Dipak Rijal, Mayor, Gokerneshwor Municipality
9:40-10:00	NDRRMA introduction activities	Ms. Hira Devi Poudel, Under Secretary, NDRRMA
10:10-10:30	DRR-NSPoA ・ Background ・ Objectives ・ DRR framework ・ Strategic activities ・ Performance indicators ・ Monitoring & reporting	Dr. Dijan Bhattarai, Under Secretary, NDRRMA
10:30-11:00	Monitoring method ・ Questionnaire ・ Q&A	Mr. Naresh Shrestha/Mr. Bhupendra Bahadur Basnet REKV, NDRRMA
11:00-11:15	Current situation of the monitoring of DRR activities in participants organizations ・ 1-2 min from each organization ・ Challenges, suggestions etc.	Participants
11:15-11:30	Tea Break	
11:30-12:00	Introduction of LDCRF Guideline	Mr. Sudip Bikram Bhatta, SDE NDRRMA/ Mr. Prabesh Ghimire, REKV, NDRRMA
12:00-12:15	Wrap up, way forward and Closing	Mr. Anil Pokhrel, CE, NDRRMA
12:15-	Lunch	

Source: JICA Expert Team

The JICA Expert Team analyzed the information collected from the stakeholders and developed a draft report summarizing the results of the monitoring for 2023/2024. The draft report was submitted to the NDRRMA on March 3, 2025. The full report was finalized after incorporating NDRRMA's comments and submitted to the 32nd Executive Committee meeting held on May 28, 2025 with a three-page summary.

Some key figures are as follows.

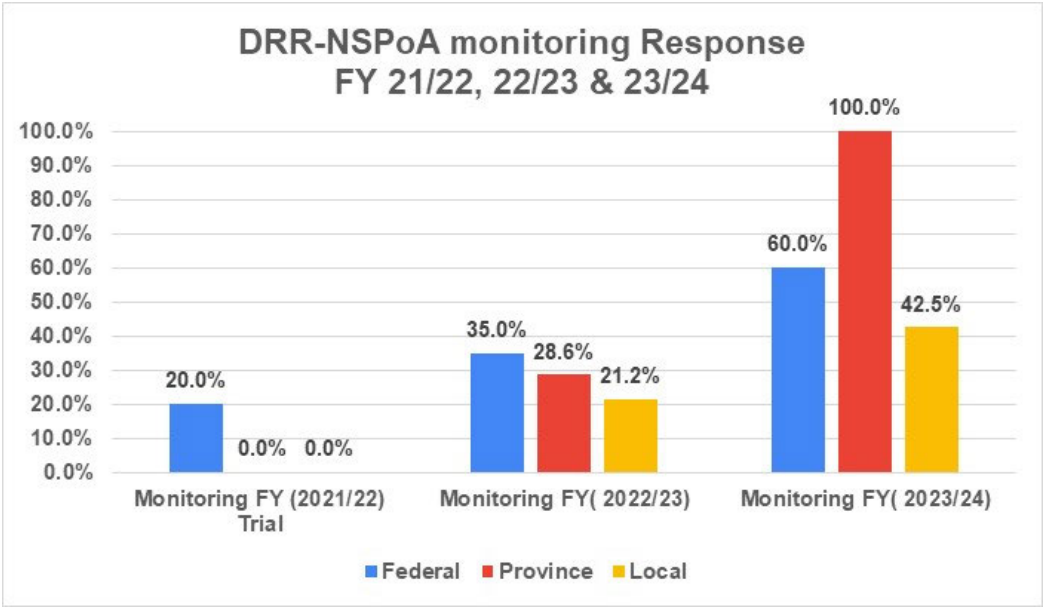
- The progress status was reported for 90% of the total 271 strategic activities.
- At the federal level, responses were obtained from 24 out of 40 key institutions.
- At the province level, responses were obtained from all seven provinces.
- At the local level, responses were obtained from 320 out of 753.
- The overall progress status of the strategic activities is as follows.



Source: JICA Expert Team

Figure 2.1-6 DRR-NSPoA Activity Status for FY 2023/2024

Notable improvements have been made to the response rates after implementing the lessons learned from the previous monitoring cycles.



Source: JICA Expert Team

Figure 2.1-7 Improved Response Rates after Implementation of Lessons Learned

(4) Monitoring for Fiscal Year 2024/2025

The NDRRMA will start the monitoring process for FY 2024/2025 in July 2025.

Activity 1-6 Prepare Recommendations to be Incorporated into the DRR National Strategic Plan of Action

Activity 1-6-1 Prepare draft recommendations for the DRR National Strategic Plan of Action based on the series of meetings that are conducted

The JICA Expert Team prepared a report of the progress monitoring of the DRR-NSPoA for the Fiscal Year (FY) 2022/2023 and for FY 2023/2024, which contained the recommendation section. They were handed over to the NDRRMA on February 27, 2024, and on March 3, 2025, respectively.

Activity 1-6-2 Hear comments from relevant ministries and authorities on the recommendations and modify, if necessary

The recommendations in the progress monitoring reports were reviewed by the NDRRMA.

Activity 1-6-3 Finalize the recommendations

The progress monitoring report for FY 2023/2024 was reported to the Executive Committee with the following recommendations.

From the perspective of improving the monitoring process of the DRR-NSPoA:

- The engagement of the activity owners, i.e., responsible organizations, in the implementation and monitoring of DRR-NSPoA should be reinforced. In this regard, the importance of DRR-NSPoA should be reaffirmed among the members in the Executive Committee meetings.
- The MoHA and NDRRMA should be empowered, so that they can properly monitor the progress of DRR-NSPoA and ensure that the actions are implemented in a timely manner.
- The DRR-NSPoA activities at the local levels should be monitored through the Local Disaster and Climate Risk Framework.

From the perspective of improving the progress and achievement of the DRR-NSPoA

- The number of deaths and affected people has been reducing at a good pace for disasters, but not for road accidents. Related activities should be reinforced.
- Retrofit of health facilities, school buildings, and cultural heritages is on track, but not for public and government buildings. Good practices of health facilities, school buildings, and cultural heritages should be learned and applied to public and government buildings, as well as to other important infrastructures. To achieve the targets, all ministries and agencies should conduct seismic evaluation of these buildings and infrastructures, identify those to be retrofitted or reconstructed, prioritize them, and implement retrofit or reconstruction projects.
- Technical assistance and training to the local levels should be strengthened to establish a nationwide three-tier governance structure for DRR.

From the perspective of reviewing and revising the DRR-NSPoA:

- One single organization responsible should be assigned to each activity, so that the reporting of each activity can be streamlined. The responsible organizations and the supporting organizations should include in their annual work plans the necessary actions to implement the DRR-NSPoA activities.
- Sufficient manpower, resources, and budget should be secured by the activity owners for the timely implementation of the activities. If it is not possible, the activities or the DRR-NSPoA should be reviewed and revised so that they can be realistically implementable.
- The relationships between the activities and the performance indicators should be clarified. It may also require adjusting and optimizing the indicators and/or reconsidering the activities considering the overall goals of DRR-NSPoA.

Activity 1-7 Enhance the coordination mechanism to share the findings of research related to disaster risks and DRR measures with the concerned government agencies and the academia of NPDRR

The National Council has decided on the organizational structure of the NDRRMA, which consists of four directorates: i.e., (a) Risk Reduction and Early Warning System, (b) Disaster Response, (c) Reconstruction and Rehabilitation, and (d) Study, Research and Training, yet the detailed roles and responsibilities of the Study, Research and Training section are not clear. NDRRMA and the JICA Expert Team have listed the important researcher and technical persons related to Nepal's disaster management fields.

The NDRRMA suggested in the 3rd JCC that it would propose a "coordination mechanism" instead of "a coordination wing" since the NDRRMA has not been planning to establish a coordination wing for now.

Original:

Prepare to establish a coordination ***wing*** in the NDRRMA to share the findings of research related to disaster risks and DRR measures with academia

Proposed Change:

Prepare to establish a coordination ***mechanism*** in the NDRRMA to share the findings of research related to disaster risks and DRR measures with academia

The NDRRMA and JICA Expert Team discussed in September 2023, and both sides agreed to propose modifying the title of Activity 1-7 accordingly. After further discussions between the NDRRMA, JICA, and JICA Expert Team, the current title was agreed upon in the 4th JCC held on January 10, 2025, especially emphasizing the importance of the National Platform for DRR (NPDRR).

The JICA Expert Team reviewed the structure and activities of the NPDRR: NDRRMA serves as the Secretary of the NPDRR, and as part of the NPDRR's activities, a dialogue mechanism among stakeholders called the "BIPAD Sambad" has been established. Here, lectures and discussions on various disasters are held on a regular basis. One of the thematic groups of the NPDRR is the "Academic and Research Institutions" group, which convenes when matters arise that require the cooperation of academic and research institutions.

In January 2025, with the aim of improving the existing dialogue mechanism in Nepal, the JICA Expert Team shared with the NDRRMA examples and best practices at various levels in Japan, such as the Central Disaster Management Council, Specialist Study Groups and Subcommittees, National Council for Disaster Reduction Promotion, Council for Disaster Reduction through Science and Technology Innovation, local disaster management councils and regional level meetings.

The NDRRMA outsourced part of the Detailed Damage Assessment (DDA) of the Western Nepal Earthquake to the Institute of Engineering (IoE) of Tribhuvan University. This allows the university to acquire knowledge and data of the earthquake, while the NDRRMA can complete their tasks of DDA, which is mutually beneficial to the NDRRMA and academia. The JICA Expert Team considers this a good practice for sharing knowledge with the academia and recommends further pursuing similar opportunities.

Activity 1-8 Conduct public relations activities to disseminate information on DRR and NDRRMA in coordination with the media, private sectors, and other concerned agencies

The publicity initiatives of the Project aim to widely disseminate the significance, activities, and results that contribute to the achievement of the global targets and the promotion of priorities for actions of the SFDRR. In publicity, various media shown in the following table were used to reach each target.

Table 2.1-15 Public Relations Activities for the Project

Method	Target	Contents Implemented
Utilization of Media in Nepal	Citizens in Nepal	Created press releases for workshops. Invite the media through the C/P's public relations officials.
Newsletter	DRRM-related Organizations, Donors, NGOs and Citizens in Nepal	Contents, progress, and related topics on the Project were compiled and published periodically. The JICA Expert Team has created the newsletter periodically, once every six months, to introduce the progress of the Project. The newsletter has been published from No.1 to No. 8 throughout the project period.
Webpage (JICA website)	Citizens in Japan	Provided project information for the JICA website to introduce the progress of the Project in Japanese.
Webpage (Facebook)	DRRM-related Organizations, Donors, NGOs and Citizens in Nepal	Launched and operated a Facebook page of the Project to introduce content, schedule, and progress by utilizing the functions of a social network.
Social Networking Service (SNS) of MoHA/NDRRMA	DRRM-related Organizations, Donors, NGOs and Citizens in Nepal	Provided information on SNS (YouTube, Twitter, Facebook page) owned by NDRRMA.
Utilization of Media in Japan	Citizens in Japan	When the C/P training is in Japan, the information is provided to the governments/companies/schools(students).
Dissemination of Results at International Conferences	International Society	Supported the C/Ps to report on the results of the project activities, including the progress and measures toward achievements of the SFDRR at the Global Platform for DRR (GPDRR) and Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR), etc. Provided publicity materials, photos, and videos taken during project activities, etc., to various events and exhibition booths. As part of PR activities and capacity development of NDRRMA, the JICA Expert Team invited the C/Ps to the international conferences, twice (two officials in each) as follows. • Global Platform for Disaster Risk Reduction (GPDRR) in Bali, Indonesia from May 22 to 28, 2022 • Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR) in Brisbane, Australia from September 19 to 22, 2022

Source: JICA Expert Team

Activity 1-8-1 Conduct PR activities

(1) Participation in international conference

As part of PR activities and capacity development of NDRRMA, the Project participated in the Global Platform for Disaster Risk Reduction (GPDRR) which was held in Bali, Indonesia from May 22 to 28, 2022, and the Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR) which was held in Brisbane, Australia from September 19 to 22, 2022. The following participants were invited and participated in various conferences.

a) [GPDRR]

- Mr. Rameshower Marrahatta, Joint Secretary, NDRRMA
- Ms. Anita Niraula, Joint Secretary, NDRRMA

b) [APMCDRR]

- Mr. Bijaya Rana Magar, Senior Divisional Engineer – Under Secretary, NDRRMA
- Mr. Kulshekhar Aryal, Section Officer – Human Resources Division, MOHA

The main objective of participating in the platform/conference is as follows.

- To present the progress and status of DRR in Nepal
- To obtain various knowledge and experiences for feedback to Nepal and REKV
- To exchange knowledge and experiences with participants from other countries
- To share the experiences with other counterparts after the GPDRR/APMCDRR

GPDRR was held under the theme “From Risk to Resilience: Towards Sustainable Development for All in a COVID-19 Transformed World” and was organized across three main sub-themes on disaster risk governance, COVID-19 recovery, and DRR financing. The meeting further: addressed the SFDRR stocktaking for the ongoing Mid-Term Review; deliberated on actions to reduce disaster risk for the most vulnerable, including Indigenous People, women, youth, and persons with disabilities, and to ensure their full and effective participation in decision making; and highlighted potential synergies with the sustainable development and climate action agendas and policies.

APMCDRR was held under the theme “From Crisis to Resilience: Transforming the Asia-Pacific Region’s future through disaster risk reduction” and is organized around three main pillars: Investing in resilience and preparedness; Shock-proofed infrastructure and systems; and Resilient communities, and three cross-cutting themes: Localization; Inclusion; and Science, technology and knowledge.

In addition to the official programs, the participants of the Project participated in JICA’s special session. The JICA’s special sessions provided the opportunity for core partner countries’ DRR-related government stakeholders to discuss the way forward to achieve the global target of the SFDRR by 2030 by sharing the current progress for the Mid-Term Review of the SFDRR from each government. The main theme was “how to promote/increase pre-disaster investment to achieve the SFDRR”. In the session, representatives from respective DRR agencies discuss 1) important findings/achievements of the SFDRR and good practices of each country, 2) bottleneck/issues to achieve the SFDRR, and 3) plans to accelerate the SFDRR.

(2) Holding a discussion meeting on Local Disaster Resilience Framework (LDRF)

As part of PR activities and capacity development of NDRRMA, the Project held a discussion meeting on the Local Disaster Resilience Framework (LDRF) related to the Output 3 activities on December 21, 2022. The mayor of Chandragiri Municipality, other municipal officials who oversee DRRM, and task force members of relevant ministries participated in the meeting. For details, please refer to Activity 3-2.

(3) Distribution of Newsletter

The JICA Expert Team has distributed Newsletters No. 1 to No. 8 in both English and Japanese semi-annually since the project began. These newsletters covered the Project Summary, Project Progress Information (both overall and for each Output), and Future Activities. They were disseminated during meetings with relevant ministries/municipalities, at GPDRR, APMCDRR, at workshops, and at JCC meetings.

(4) Preparation of the contents for the project website

The JICA Expert Team has prepared the contents for the project website to be uploaded to the NDRRMA website. The JICA Expert Team handed over the data of contents to the NDRRMA.

(5) Holding a workshop to disseminate the project activities

A workshop was held on 19 July 2024 as a part of the public relation activities, as shown in Activity 1-5. The main contents of the workshop were the current situation and monitoring method of DRR-NSPoA, but it also included the introduction of NDRRMA activities and the introduction of the LDCRF guideline.

For the dissemination of the LDCRF guideline, which was developed in the Project, three workshops were held. The first workshop was held on January 17, 2025. The second workshop was held on March 16, 2025. The third workshop was held on April 20, 2025. Please refer to the progress of Activity 3-4.

Activity 1-8-2 Coordinate and prepare "DRR Annual Report

As shown in Activity 1-5, the JICA Expert Team supported the NDRRMA in developing annual reports for the progress monitoring of the DRR-NSPoA for FY2022/2023 and FY2023/2024. The JICA Expert Team also supported the NDRRMA in preparing the National Disaster Report 2020-2024 in September 2024.

2) Output 2

Activity 2-1 Form a Task Force (TF)* comprising the Counterparts (C/P)s and the Japanese Experts

The Task Force, composed of the officers and representatives from the NDRRMA and concerned ministries, including OPMCM, MoF, MoHP, MoPIT, and MoUD was formed with the Under Secretary of NDRRMA as its Tark Force Coordinator. During a Task Force meeting, the procedure and criteria for identifying priority DRR projects were discussed and agreed. The JICA project team also consulted with the Task Force members during the selection process for high-priority DRR projects.

Activity 2-2 Review the existing hazard and risk assessments in the KV

Activity 2-2-1 Review of JICA risk assessment project results on important buildings, roads and bridges

In order to prepare a priority DRR project list in activity 2-3, the risk assessment results from the "Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (JICA ERAKV)" were reviewed by the JICA Expert Team as domestic assignments in Japan.

ERAKV project conducted seismic risk assessment for buildings (general buildings, government buildings, schools and hospitals), infrastructure and lifeline facilities (roads, bridges, power distribution, water supply pipelines, sewage pipelines, and mobile communication stations), as well as injury and fatality based on the scenario earthquakes around KV. The risk results from the scenario earthquake located in the south of KV, which is considered to have high risk in the future, are summarized as follows.

Table 2.1-16 Results of seismic risk assessment by JICA ERAKV

Structure	Slight Damage	Moderate Damage	Extensive Damage
School building (total: 5,731)	1,057 (18.4%)	810 (14.1%)	1,654 (28.9%)
Health facility building (total: 584)	105 (18.0%)	83 (14.2%)	153 (26.2%)
Government building (total: 478)	85 (17.8%)	66 (13.8%)	126 (26.4%)
Bridge (total: 45)	6 (13.3%)	27 (60.0%)	12 (26.7%)
Road (total: 5,811 km)	Road in potential liquefaction area: 274.9km (4.7%)		
Road (total: 5,811 km)	Road in potential landslide area: 95.8km (1,7)		
Water supply pipeline (total: 1,167 km)	Number of damage points 3,496		
Sewerage pipeline (total: 1,192 km)	Damage length 11.94km (1.0%)		
Power pole (total: 190,851)	Number of damage pole: 9,156 (4.8%)		
Mobile base station (BTS) (total: 1,043)	Damage 372 (35.7%)		

Source: JICA ERAKV project

(1) Road

a) Background

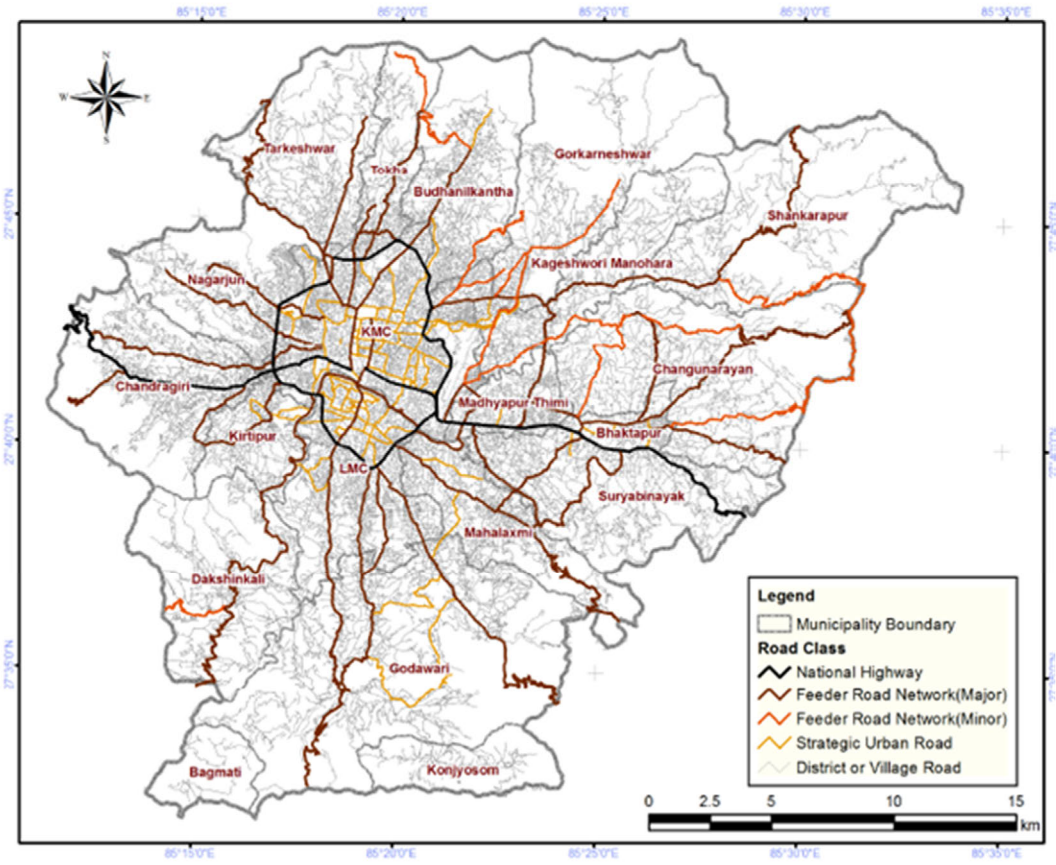
The entire road network in the Kathmandu Valley is classified into five categories designated by the Department of Roads (DoR, Ministry of Physical Infrastructure and Transport (MoPIT)); namely, "National Highway", "Feeder Road (Major)", "Feeder Road (Minor)", "Strategic Urban Road", and "District and Village Road". This classification and its order also represent the importance of each road within the entire road network.

According to the road section list prepared in the JICA ERAKV project, a total of 5,810km of the road network exists in Kathmandu Valley, and Table 2.1-17 shows the road list by road class. The said project also divided the entire road network into approximately 80,000 road sections for assessment purposes.

Table 2.1-17 Total Length of Roads by Road Class in the Kathmandu Valley

Road Classes	Road Length (km)	Road Administrator
National Highway	61.6	DOR
Feeder Road Major	290.1	Ditto
Feeder Road Minor	84.7	Ditto
Strategic Urban Road	129.3	Ditto
District & Village Road	5,245.2	Dirstrict
Total	**5,810.6**	

Source: DoR, JICA ERAKV project



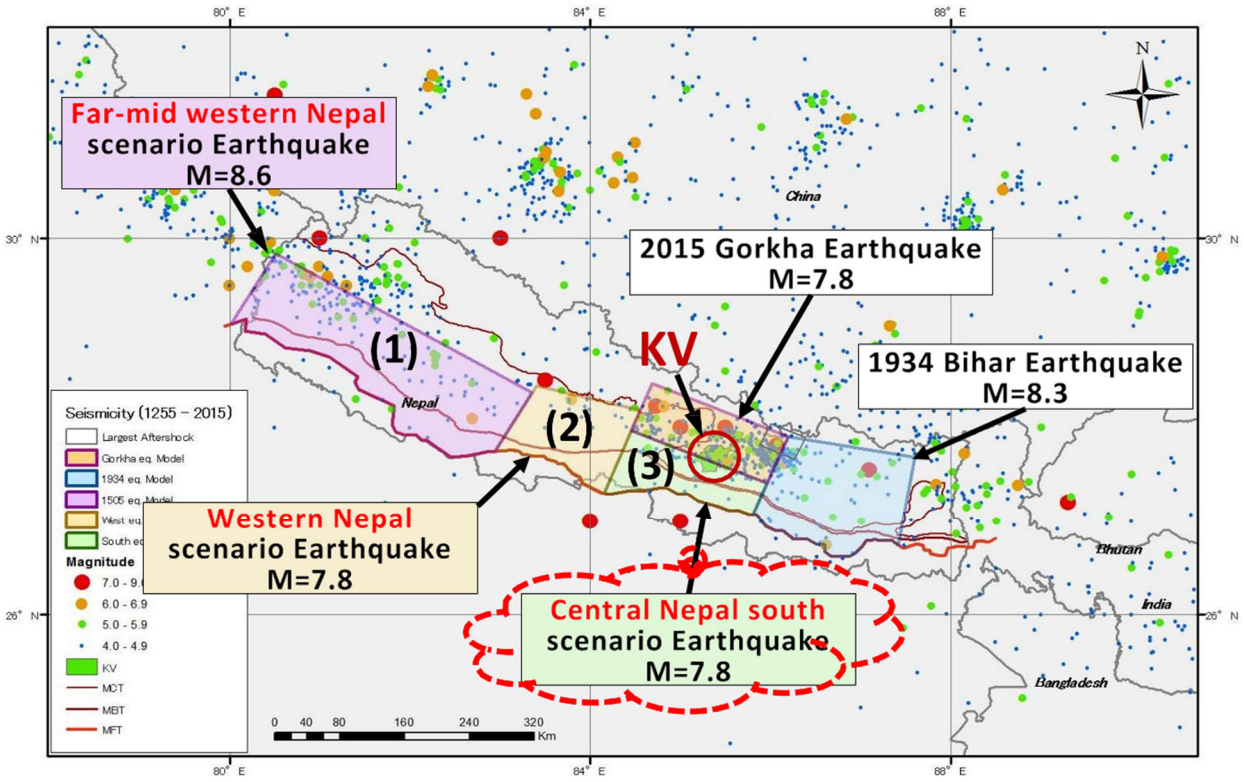
Source: JICA ERAKV project

Figure 2.1-8 Road Network in Kathmandu Valley

Three major causes of road damages by a large scale earthquake were specified in the previous JICA's project, Volume II: Main Report, Final Report on the Project for Assessment of Earthquake Disaster Risk for the Kathmandu valley in Nepal (JICA ERAKV), page 4-28, JICA, Apr. 2018: namely, "Liquefaction," "Slope Failure," and "Blockage caused by collapsed building debris". In this project to prepare the project list for preventive investment against a future possible large-scale earthquake, the JICA Expert Team focused on the first two causes because there is no countermeasures to building collapse by improving or strengthening road structures, and such debris would be removed by heavy machinery at the site when it occurs.

Liquefaction describes a phenomenon where sand grains below the groundwater level lose their bonds as water pressure in sandy soil increases due to repeated strong ground shaking caused by an earthquake.

Slope failure occurs due to both earthquake forces and heavy rain, categorizing into two types: "landslide" and "surface failure." Two main factors induce the slope failure: soil parameters of C (cohesion), ϕ (internal friction angle), and density, and slope angles.



Source: JICA ERAKV project

Figure 2.1-9 Scenario Earthquakes around KV

As shown in Figure 2.1-9 above, four future earthquake scenarios were applied for risk assessment in the JICA ERAKV project. Regarding the earthquake scenario to be applied for the project list preparation, out of these scenario earthquakes, CNS-2, where the estimated PGA at the center area is 250 to 400 gal, was adopted to evaluate the seismic resistance of the road sections in Kathmandu Valley, considering the high occurrence possibility and its effect to the facilities in Kathmandu Valley.

(2) Available Data

a) General

The JICA ERAKV project assessed the risk level of each road section on the road network in Kathmandu Valley regarding "Slope Failure" and "Liquefaction." It identified the risk level of road sections by spatially comparing the 250m mesh-grid potential maps on "Slope Failure" and "Liquefaction" based on the scenarios of seismic ground motion and the map of the existing road network for each grid in Kathmandu Valley. The following data were collected and utilized in the process of the risk assessment for the road sections.

b) Liquefaction

For the liquefaction assessment, the following data were collected in the JICA ERAKV project.

- Historical liquefaction points during the 1934 Bihar-Nepal Earthquake and 2015 Gorkha Earthquake by site survey and interviews with the residents
- Geomorphological classification by topographical and geological maps in Kathmandu Valley
- 449 of the existing borehole data

By using the data mentioned above, the following method and procedure were applied to assess the risk of liquefaction of each road section in the grid. Major factors associated with liquefaction phenomena are: 1) site position (latitude and longitude), 2) altitude, 3) N-value for the soil layer, 4) Fine fraction content (Fc) of the soil layer, 5) overburden pressure, 6) Effective overburden pressure, 7) Density, 8) Groundwater level, etc.

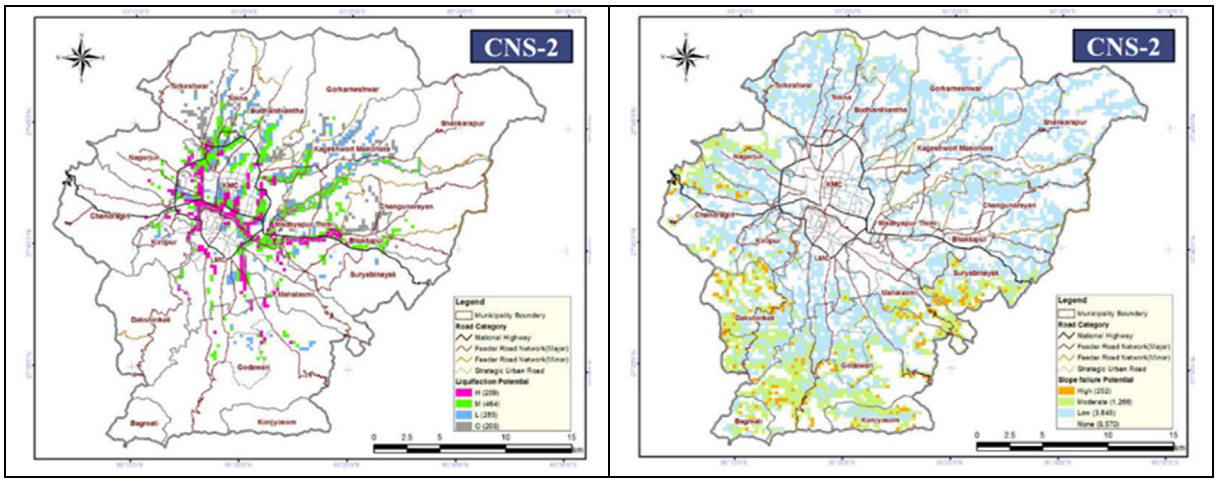
- From the geomorphology in the Kathmandu Valley, the JICA ERAKV project focused on some parts of the fluvial surfaces: alluvial lowland, natural levee, former river course, and valley plain as liquefaction prone areas.
- Based on the targeted areas and the existing borehole data, the JICA ERAKV project provided N value and depth relation, assumed relation between N-value and density, the assumed Fc, and assumed ground water level according to the distance from the river.
- By using the correlations mentioned above, the JICA ERAKV project calculated overburden pressure and effective overburden pressure for each grid.
- By using the calculated factors associated with liquefaction, the JICA ERAKV project calculated PL-value for judging liquefaction possibility for each 250m grid.
- To verify the appropriateness of the assessment of liquefaction possibility by simulation, the JICA ERAKV project compared the historical liquefaction points with the simulated ones

c) Slope Failures

For the slope failure assessment, the following data were collected in the JICA ERAKV project.

- Digital elevation model of 10m interval provided by UNDP for contour lines and the Environmental Engineering Geology Map of DMG, 1998, to identify the geomorphological units closely related to slope failure: Ls (landslide), ta (talus), es (eroded slope), fa (fan), and Bs (geomorphological base rock)
- Borehole data to get N-values to estimate the soil parameters of C and φ
- Historical slope failure data from past reports and a site survey visit report after the 2015 Gorkha Earthquake

By using the collected data mentioned above, the JICA ERAKV project set the mean slope angle, name of geomorphological unit, and parameters of soil properties, and estimated the risk of soil failures depending on PGA (Peak Ground Acceleration) and the type of slope failure. Furthermore, by using the historical data, the JICA ERAKV project verified the assessment results for slope failure. Figure 2.1-10 shows the risk assessment results of roads by the JICA ERAKV project.



Source: JICA ERAKV project

Figure 2.1-10 Possible Damage of Road by Liquefaction (Left) and Slope Failure (Right) (CNS-2)

d) Selection for Longlist

By using the risk assessment results on the JICA ERAKV project, which evaluated the risk of both liquefaction and slope failure with the simulation mentioned above, only ranked "High Risk" road sections are extracted by road class as the longlist. A summary table is indicated in Table 2.1-18 and the longlist of roads with high risk of liquefaction and slope failure by road class is in Appendix 5-5.

Table 2.1-18 Summary Table of Total Length of Roads with High Risk for Liquefaction and Slope Failure by Road Class

Road Class	Liquefaction	Slope Failure	Total Length (km)
National Highway	7.6	1.3	8.9
Feeder Road Major	12.8	8.8	21.6
Feeder Road Minor	0.1	1.0	1.1
Strategic Urban Road	13.6	1.6	15.2
District & Village Road	241.0	85.8	326.8
Total(km)	**274.9**	**98.5**	

Source: JICA Expert Team based on the risk assessment results of the JICA ERAKV project

(3) Bridges

a) Background

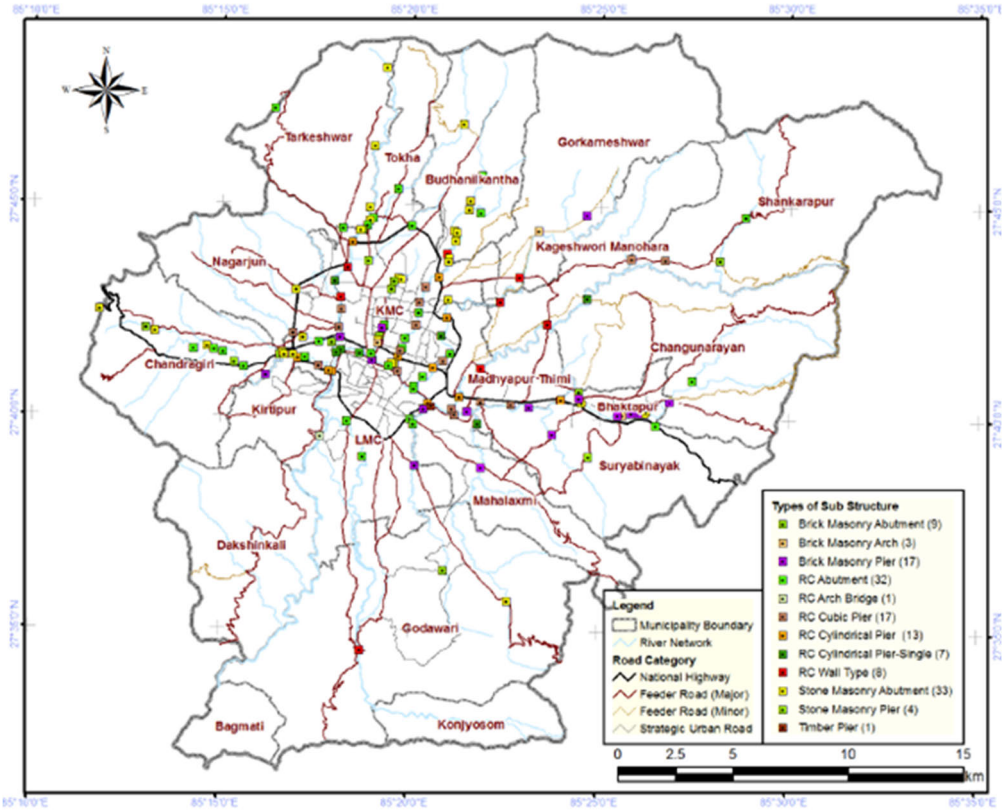
Road bridges are managed by the organizations that manage the corresponding road network. Bridges located on the strategic road network, district road network, and other urban road networks are managed by DoR, DoLI (Department of Local Infrastructure, Ministry of Federal Affairs and General Administration (MoFAGA)), and Local Levels. In the JICA ERAKV project (The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal, 2015 to 2018, JICA), all of the bridges located on the strategic road network and local road network were targeted for seismic risk assessment. The total number of bridges was 145. The number of bridges by structure type is shown in Table 2.1-19, and Figure 2.1-11 shows the distribution of bridges. As shown in Figure 2.1-9 above,

four future earthquake scenarios were applied for risk assessment in the JICA ERAKV project, and CNS-2 was adopted to evaluate the seismic resistance of the bridges in Kathmandu Valley.

Table 2.1-19 Number of Bridges by Structure Type

Structure	Multi-Span	Single-Span
RC pier	45	31
RC box culvert	2	-
Masonry	24	42
Timber	1	-
Sub-Total	**72**	**73**
Total	**145**	

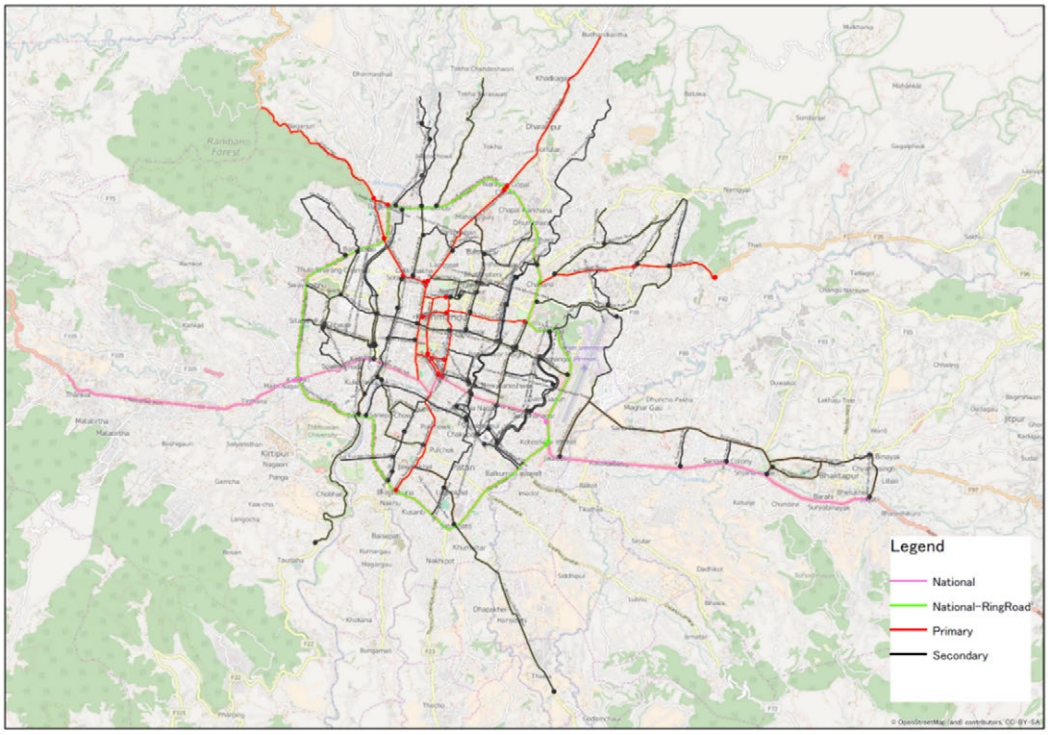
Source: DoR, JICA ERAKV project



Source: JICA ERAKV project

Figure 2.1-11 Distribution of Bridge

In the JICA RRNE, the Kathmandu Valley Resilience Plan (KVRP) was prepared. In the KVRP, the Emergency Transportation Road Network, which needs to remain open immediately after the large earthquakes, was proposed. The Emergency Transportation Road Network was selected in consideration of the locations of important facilities and places such as government offices to be emergency operation centers, major hospitals that can respond to emergency medical treatment, major evacuation routes, and others. Figure 2.1-12 shows the Emergency Transportation Road Network and the road network contains 1) National Emergency Transportation Road (Kathmandu Ring Road (green line) and Araniko Highway-Tribhuvan Highway (pink line), 2) Primary Emergency Transportation Road (red line) and 3) Secondary Emergency Transportation Road (black line).



Source: Prepared by the JICA Expert Team based on the JICA RRNE

Figure 2.1-12 Proposed Emergency Transportation Road network

b) Available Data

As indicated above, the JICA ERAKV project assessed the risk of all the bridges in Kathmandu Valley. The following data were collected and utilized in the process of risk assessment for the bridge. In addition, the JICA RRNE proposed the Emergency Transportation Road Network.

- Name of bridge
- Location (Latitude, Longitude)
- Structure type
- Length
- Number of spans
- Width
- Damage assessment results for bridges with multiple spans
- Emergency Transportation Road Network

The complete list of bridges in the Kathmandu Valley, with a total of 145 bridges, is presented in Figure 2.1-13. The risk assessment results of the JICA ERAKV project are shown in Appendix 5-6. (No.45 bridge is doubly counted as No.100 bridge, so that 144 bridges were evaluated.)

General features of the bridges in Kathmandu Valley are as follows:

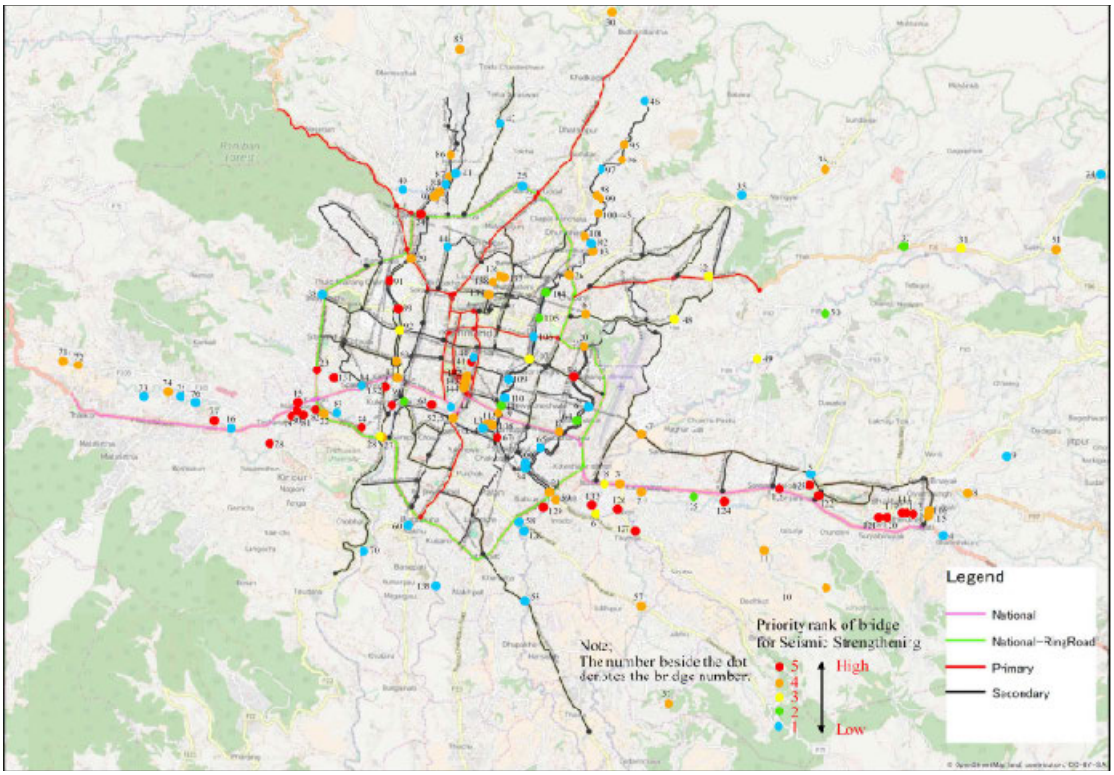
- Bridge length: About 50% are less than 20 m and the maximum one is 153 m
- Bridge Span: 50% of the bridges are multi-span, and span length ranges from 10 m to 75 m
- Superstructure: RC-T beam and RC slab types of accounts for 79%
- Pier: Multi-column type accounts for 10%

- Foundation: There is no data, but it is assumed that most bridges are pile foundation, including round bored pile or pre-cast rectangular type (0.4 m)

Damage of bridges, from the point of view of functional failure, can be mainly represented by the collapse of the substructure and the collapse of the superstructure. In the JICA ERAKV project, the collapse of the substructure was estimated by the response ductility factor of pier and the seating length was used for the judgement of the possibility of the superstructure. An example of criteria for damage degree classification is:

- Slight Damage: ductility factor <= 1.5
- Moderate Damage: 1.5 < ductility factor <= 3.0
- Heavy Damage: 3.0 < ductility factor

As mentioned above, the existing 144 bridges comprise 72 multi-span ones and 73 single-span bridges. Within 72 multi-span bridges, 45 with RC piers were assessed by their ductility factor. Besides, a risk level from 1 (low risk) to 5 (high risk) was worked out by collectively considering the pier damage, seat length, and scour for the 45 bridges, and bridge material, seat length, and scour for the other bridges, shown in Table 2.1-20.



Source: Prepared by the JICA Expert Team based on the JICA ERAKV project and the JICA RRNE project

Figure 2.1-13 144 bridges and the proposed Emergency Transportation Road Network by JICA RRNE

Table 2.1-20 Risk Level Assessment for Bridges

Risk Assessment Criteria		Seismic resistance Level of Substructure	Total Risk Level	Required Reinforcement Method
Response Ductility Factor:	Unseating Length(SE)			
No Significant Damage	Rank C (70cm<)	Safe	1	No problem
	Rank B (40-70cm)			
	Rank A (40cm>)			
Slight	Rank C (70cm<)	Inadequate resistance	2	Reinforcement of Substructure
To	Rank B (40-70cm)	Inadequate resistance & SE length	3	Reinforcement of Substructure & Elongation of SE
Medium	Rank A (40cm>)		4	
Severe	Rank C (70cm<)	Inadequate resistance	5	Replacement
	Rank B (40-70cm)	Inadequate resistance & SE length		
	Rank A (40cm>)			

Source: JICA RRNE

By using the risk assessment results mentioned above, Activity2-3, Prepare a list of priorities for DRR projects in KV was conducted. Further details for the preparation process of the DRR projects are described in Activity 2-3.

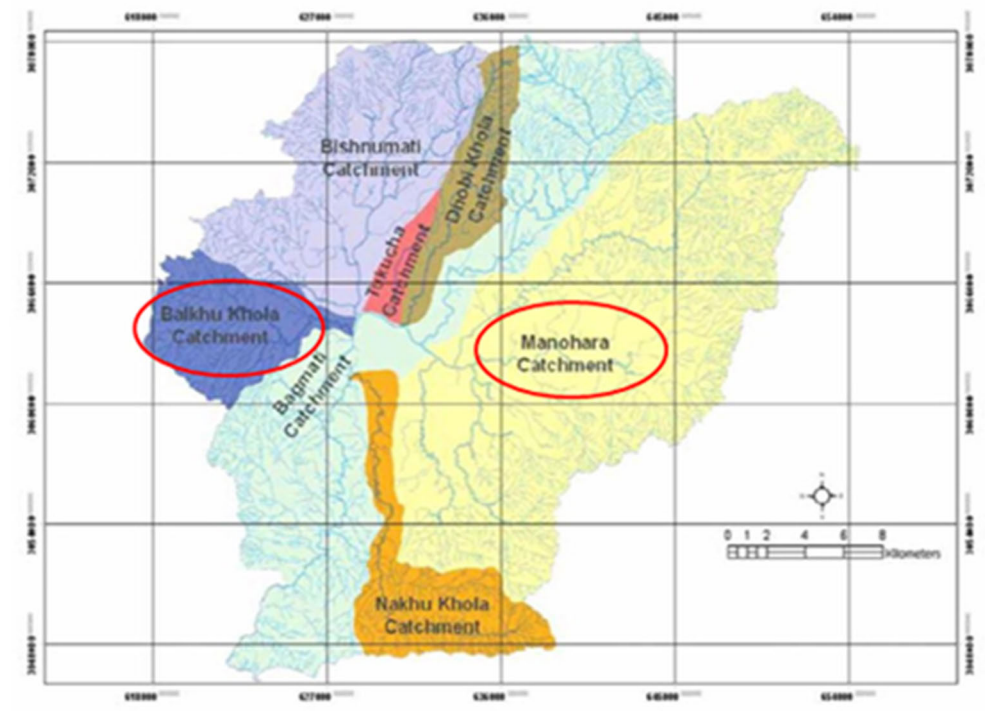
Activity 2-2-2 Investigation of flood history and study of major directions for flood risk reduction measures

To figure out the actual flood conditions, an interview survey at the target river basins, the Manohara River basin and the Balkhu Khola River basin, was conducted by the JICA Expert Team. The interview items of each area are the frequency of flooding, flooding depth, and the condition of historical floods.

According to the interview survey results, more than half of the interview locations are flooded once or more every monsoon season, though inundation depth is just above the ground level in the Balkhu Khola River basin. The cause of inundation is flooding from rivers, but the complex terrain with irregularity forms along the river; therefore, poor drainage is also a cause of inundation in locally lowland areas. The historical flood happened in 2019, and its inundation depth reached over 1 m at half of the interview locations. Meanwhile, riverbank erosion is becoming a serious problem, especially on the upstream side, where riverbank protection has not been installed. Some interviewees mentioned the degradation trend of the riverbed, which causes riverbank collapse.

In the Manohara River basin, flooding by overflow of the river occurred every monsoon season at most of the interview locations, but riverbank protection and corridors were installed in urban/residential areas after the big flood in 2019 (by the Bagmati River Basin Improvement Project). Then, according to the residents along the river, the frequency of flooding is much less than before.

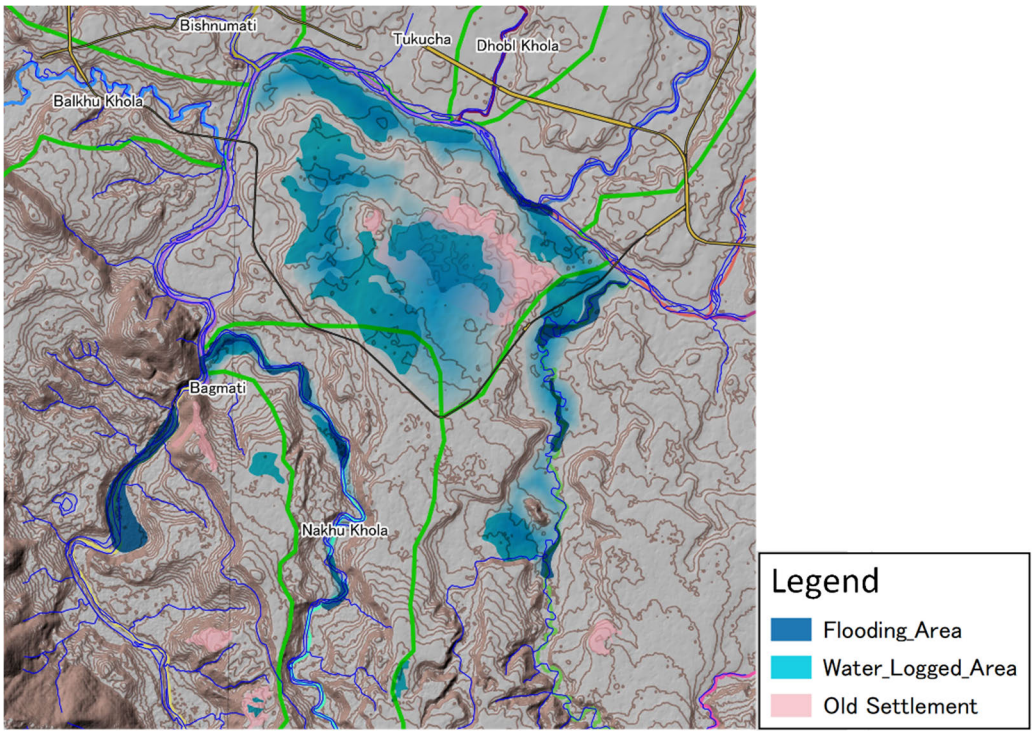
As a result of the interview survey, flood-vulnerable areas are limited to lowland areas along rivers. Furthermore, flooding in the Kathmandu Valley occurs due to high intercity rainfall during the monsoon season, and the water flows away within 2 to 3 hours after the heavy rain, except for locally low land areas. Also, the lowland areas have a problem of inland flooding due to the poor drainage system.



Source: Bagmati Action Plan (2009-2014)

Figure 2.1-14 Target River Basins for the Investigation of Flood History

Utilizing flood interview survey results, a simple flood hazard assessment was conducted. The estimated flooding area was indicated by comparing the estimated flood surface polygon generated and the Digital Terrain Map.



Source: JICA Expert Team

Figure 2.1-15 Simple Flood Hazard Map (Bagmati River)

To understand present flood mitigation action in the Kathmandu Valley by other organizations, such as the High-Powered Committee for Integrated Development of Bagmati Civilization (HPCIDBC) and Kathmandu Valley Development Authority (KVDA), the JICA Expert Team had meetings with them, respectively.

HPCIDBC is undertaking the Bagmati River Basin Improvement Project (BRBIP). BRBIP has five (5) outputs as follows.

Output 1: Established system and capacity for integrated and participatory basin management
Output 2: Improved riverbank environment in urban areas
Output 3: Increased water availability in the basin during the dry season and watershed conservation
Output 4: Functioning flood forecasting and early warning system for the Bagmati River Basin
Output 5: Efficient project management with effective stakeholder communication

Among these outputs, Output 4 is supposed to be focused on flood risk reduction. The early warning system study is being executed as a part of the Bagmati Action Plan by HPCIDBC. The Bagmati Action Plan is originally a plan for the period of 2009 to 2014 and mainly focused on the Bagmati River. Recently, additional items, including hydrologic and hydraulic analysis, not only the Bagmati River but also its tributaries, have been approved, and the final report of the plan will be prepared. This information was obtained from a hearing in February 2022 and was not publicly available as of December 2022.

KVDA also has an ongoing project related to flood risk reduction. In the development plan of 1 lakh ropanies new urban expansion area in the eastern part of the Kathmandu Valley, KVDA considers disaster management from the physical, social, and economic aspects. One of the ongoing projects for disaster management is "Urban Ecosystem based Adaption of Climate Resilient Development in the Kathmandu Valley, Nepal". The project focuses on groundwater recharging measures, such as runoff volume reduction, soak pit, rain garden, and recharging well.

The flood risk of the Kathmandu Valley is figured out through this project, but hydrological and hydraulic studies are required to evaluate ongoing flood mitigation activities and further countermeasures, especially to tackle urban floods, considering the effects of climate change.

Activity 2-3 Prepare a List of Priorities for DRR Projects in the KV

Activity 2-3-1 Prepare a priority DRR project list for important buildings, roads, and bridges

A DRR project longlist was created based on the review of the results from the JICA ERAKV project and available data. The longlists were narrowed down by screening the projects based on the earthquake damage risk and the information from the concerned government organizations.

(1) Public Buildings

The longlist for public schools is based on the school inventory from the ERAKV project. According to the building inventory of ERAKV, there are a total of 2,115 schools and 5,731 buildings in KV. Among

them, the public schools are 564, which have 1,669 buildings. The criteria for making the shortlist are the exceedance probability of moderate damage, which could result in injury or death. The threshold of exceedance probability is assumed to be 0.5. As a result, a total of 594 school buildings remain.

Similar to schools, there are a total of 363 health facilities and 584 buildings in KV. Among them, the public health facilities are 148, which have 254 buildings. Based on the criteria, 165 buildings were selected.

Also, the inventory has a total of 478 government buildings. After the discussion with NDRRMA, MoUD, and DUDBC, a shortlist, including 98 buildings, was agreed upon considering the damage risk and the emergency of the building.

Since the ERAKV project finished in 2018, the shortlist has been confirmed for their reconstruction/retrofit status. It is found in the survey, that (i) some of the buildings are rented by government offices/schools/health posts, (ii) some of the schools in the longlist are found to be private schools, (ii) some of the schools have been merged with other school or relocated or closed and, (iv) some of the government buildings have been demolished and the office moved to another place. After removing these kinds of buildings, the final shortlist includes 154 school buildings, 155 health facility buildings, and 90 government buildings.

(2) Infrastructure and Lifeline

a) Bridges

After the review of JICA ERAKV the JICA Expert Team conducted the first screening of all 144 candidate existing bridges within the KV by using the risk level rank, 4 and 5, assessed by JICA ERAKV, and narrowed down and produced the long list of 86 candidate bridges. After that, the JICA Expert Team focused on bridges located on the important Emergency Transportation routes, which were proposed in the said study, comprising the National ones such as Araniko and Tribhuvan Highways, and Ring Road, the Primary and the Secondary, and listed 24 bridges for further study.

b) Roads

For the road project formulation, the vulnerability against “Liquefaction” and “Slope failure” was focused and assessed along the road network within KV by JICA ERAKV and ranked in three risk categories: High, Moderate, and Low based on soil data and topographical features.

For the preparation of the longlist, the road sections with “High” risk in the said vulnerability on the entire road network are selected. As a result, a total of 274.9 km of road sections are for liquefaction and 98.5 km ones for slope failure were identified.

For the slope failure, it has been further narrowed down to prepare the shortlist by using the proposed Emergency Transportation Network Class, resulting in a 4.9 km road section for slope failure. However, the JICA Expert Team has already recognized the difficulty in formulating the project due to the lack of geological data, which is essential data to determine the countermeasures against the said two risks. Accordingly, the JICA Expert Team conducted the site visit to the shortlisted road sections to judge the continuation of the DRR project formulation. However, it was found that there was no vulnerability

against either slope failure or liquefaction by eye observation. In parallel, the alternative method for project formulation on the slope failure, such as using satellite data, has been studied. However, finally it was also decided to discontinue further study

As a result, it was concluded that the formulation of DRR projects for roads is not proposed.

Activity 2-3-2 Site confirmation for listed structures

(1) Public Buildings

JICA Expert Team has visited all of the high priority project sites, i.e., 32 schools, 13 health care facilities and 8 government buildings, in order to (1) confirm their current status, including structure type (load bearing or frame, etc.), structure element (column, beam, wall) conditions and damage, if any, and (2) collect the necessary information for making the project profile, such as land availability, future plan (e.g. expansion, etc.) of the facility as well as the possible budget arrangement. The details of the site confirmation (photos and collected information) is reflected in the project information sheet.

During the site visit in September 2023, it was found 3 high priority DRR projects were under construction. The three projects are government building of Kageshwori Manohara G-10-K, health facilities of Godawari H-1-L-156 and LMC H-10-L-482. As of May 21, 2024 high priority projects are (see photos in Figure 2.1-16):

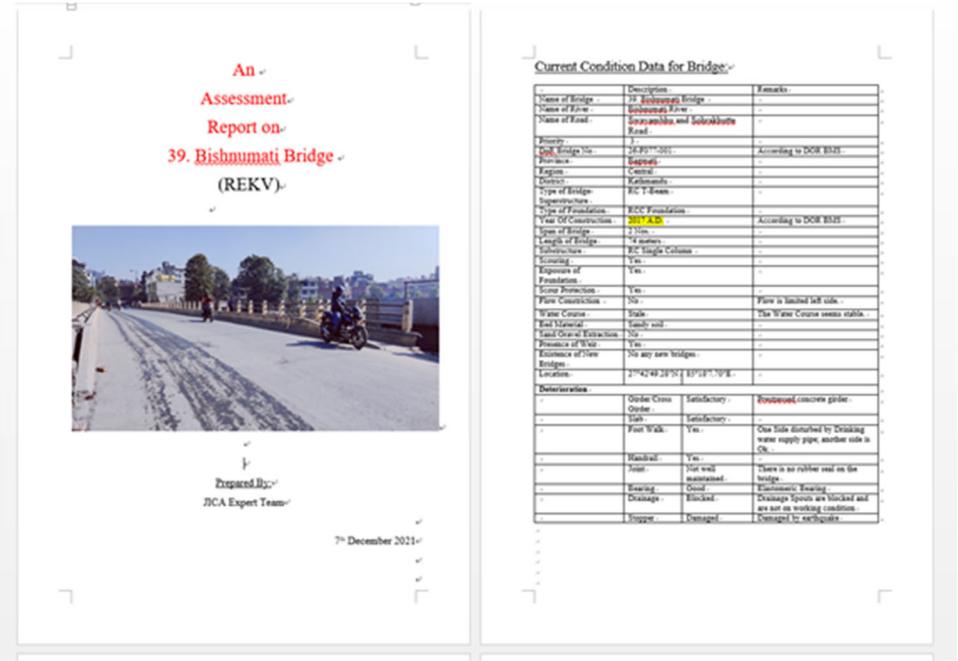
Kageshwori Manohara G-10-K	: Completion of construction
Godawari H-1-L-156	: Completion of main structure
LMC H-10-L-482	: Construction halted due to shortage of budget

Source: JICA Expert Team

Figure 2.1-16 Site Confirmation of the Three High Priority DRR Projects

(2) Infrastructure and Lifeline

Bridge: For the selected 24 bridges, the JICA Expert Team has completed the site visit to observe the damage level/severity and construction year.



Source: JICA Expert Team

Figure 2.1-17 Example of Bridge Survey Sheet

For the roads, a site visit was conducted to the site to identify its vulnerability in the Project. No vulnerability of the listed road sections against slope failure or liquefaction phenomenon was observed through visual inspection.

Source: JICA Expert Team

Figure 2.1-18 Road Section with High Risk of Slope Failure

Activity 2-4 Prepare the implementation framework for priority projects for DRR in the KV in coordination with the concerned ministries

Activity 2-4-1 Prepare the Implementation Framework

Current implementation framework of government's project is as follows.

- The ministry secures the budget for the project in the next fiscal year which is requested by its department or the project office. The project needs to be listed in the Red Book which is prepared and published during the budget speech of each fiscal year.

- The department or the project office prepares the Detailed Project Report (DPR) which includes the total budget, completion time, source of funding, implementation modality, etc. Based on the DPR, the department or project office prepares a yearly program which is called the "Yearly Budget and Program" and gets approval from the concerned ministry and the Ministry of Finance.
- The department or the project office selects the consultant through competitive bidding Necessity of the consultant is decided according to the size and the nature of the project but in general consultant is hired. The selection of the consultant will be carried out by the department or project office.
- The department or project office selects the contractor through competitive bidding.
- The department or the project office supervises the construction work through the consultant.

JICA Expert Team adopted this implementation framework for priority DRR projects since the project will be implemented by the government organization. In case the project is implemented by donor fund, the implementation framework shall be in accordance with the donor's policy and guideline.

Activity 2-4-2 Discussion and Consensus with Relevant Ministries and Organizations

The DRR project's promotion meeting to the relevant ministries was held at the NDRRMA office on March 3, 2025 by inviting MoEST, MoHP, MoUD and MoPIT to facilitate the ministries to incorporate the DRR projects into the coming fiscal year's national budgets. Although NDRRMA staff and the JICA Expert Team made presentations of the DRR projects to the participants, only MoHP and MoUD participated in the meeting and gave some advice to apply the central government budget by MoHP. For other ministries who could not attend the meeting, such as MoEST and MoPIT, NDRRMA contacted them individually for continuing the promotion activities to incorporate the DRR projects into the coming fiscal year's budget. For the high-priority DRR project for bridges, one of the UN organizations, the United Nations Office for Project Services (UNOPS), showed interest in it and had a meeting in June 2023 to share the concept of the high-priority DRR projects for bridges. After that, UNOPS submitted a concept note including a part of this project concept, retrofitting of the existing bridges identified as a high-priority DRR project, to the Japanese government in July 2023. Unfortunately, the proposal of UNOPS was not selected by the Japanese government for this fiscal year's supplemental budget, which was informed to UNOPS in December 2023.

Activity 2-5 Prepare high-priority DRR projects in the KV in coordination with the ministries concerned

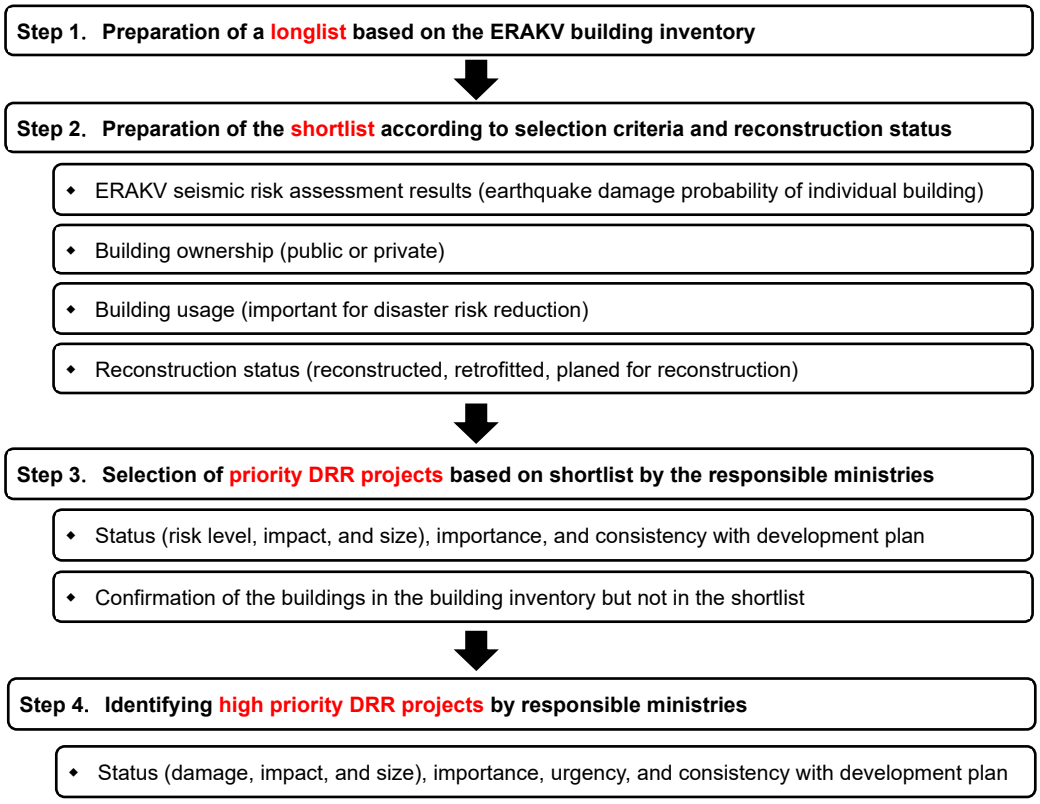
Activity 2-5-1 Prepare high-priority DRR projects (shortlist) for important buildings, roads, and bridges

(1) Public Buildings

To make high-priority projects, a long list is first created using a public building inventory, which covers the public school, public health facility, and government building (refer to Section 2-3-1). Based on the long list, NDRRMA and the JICA Expert Team developed the shortlist based on the criteria, such as the seismic risk (earthquake damage probability) of building estimated by ERAKV, building ownership,

usage, and reconstruction status. The ministries responsible (MoEST, MoHP, and MoUD) confirmed the corresponding shortlist and reviewed the long list to avoid the omission of important buildings. They selected priority projects based on the shortlist and further identified high-priority projects according to the building status, importance, urgency, and consistency with the future development plan. The general procedure for identifying the priority projects and high-priority projects is described in Section 2-5-1. The general procedure has four steps:

Step 1. Preparation of a longlist based on the ERAKV building inventory,
Step 2. Preparation of the shortlist according to selection criteria and reconstruction status,
Step 3. Selection of priority DRR projects based on a shortlist by the ministries responsible, and
Step 4. Identifying high-priority DRR projects by responsible ministries.



Source: JICA Expert Team

Figure 2.1-19 General Procedure for Identifying Priority and High-priority DRR Projects

For school buildings, MoEST confirmed 126 buildings as priority projects from the 154 shortlisted buildings, and 32 buildings were identified as high-priority projects. The steps, criteria and data source for identifying high-priority projects are summarized in Table 2.1-21. The JICA Expert Team confirmed the current situation of high-priority projects again in February 2025. Excluding schools relocated, reconstructed, or merged with other schools, total number of high-priority projects which still need support was 28 as of May 2025.

Table 2.1-21 Criteria and Steps for Identifying High-priority Project of Public School

	Criteria	Source	At the Time of	Buildings
Step 1	Long List	ERAKV	April 2018	5,731
Step 2	Moderate Damage Probability of 50% or More	ERAKV	April 2018	1,664
	Public School	ERAKV	April 2018	594
	Except Reconstructed and Merged Schools	CLPIU	April 2021	524
	Except Reconstructed Schools	DLPIU	July 2021	187
	Except Reconstructed and Merged Schools	Ward Schools	August 2021	154
Step 3	Confirmed by MoEST	MoEST	April 2022	126
Step 4	Confirmed by MoEST	MoEST EDCU	April 2022	32

Source: JICA Expert Team

For public health facilities, 155 buildings were shortlisted and MoHP confirmed the shortlist and identified 13 buildings were priority 1, which was taken as the high-priority projects, and 34 buildings were priority 2, which were considered as priority projects. The steps, criteria and data source for identifying priority projects are summarized in Table 2.1-22. Two health facilities were under construction in February 2025 so the total number of high-priority projects which still need support was 11.

Table 2.1-22 Criteria and Steps for Identifying High-priority Project of Public Health Facility

	Criteria	Source	At the Time of	Buildings
Step 1	Long List	ERAKV	April 2018	584
Step 2	Slight Damage Probability of 50% or More	ERAKV	April 2018	398
	Public Health Facility	ERAKV	April 2018	165
	Except Reconstructed Facility	NHSSP	April 2021	159
	Except Reconstructed Facility	Palika Facility	July 2021	156
	Except Facility in Rented Building	Facility	May 2021	155
Step 3	Confirmed by MoHP	MoHP	January 2022	Priority 1: 13 Priority 2: 34
Step 4	Confirmed by MoHP	MoHP	January 2022	13

Source: JICA Expert Team

According to the building inventory of ERAKV, there are a total of 478 government buildings. After the discussion with NDRRMA, MoUD, and DUDBC, a shortlist, including 90 buildings, was agreed upon, considering the damage risk and in the emergency of the building. However, since the government buildings belong to different ministries, the priority and high-priority projects could not be decided by a single authority, like NDRRMA, MoUD, and DUDBC. On the other hand, although the high-priority

projects could not be decided for central government buildings, the municipality confirmed eight high-priority projects for municipality office buildings and ward office buildings. The steps, criteria, and data source for identifying high-priority projects are summarized in Table 2.1-23.

Table 2.1-23 Criteria and Steps for Identifying High-priority Project of Government Building

	Criteria	Source	At the Time of	Buildings
Step 1	Long List	ERAKV	April 2018	478
Step 2	Slight Damage Probability of 50% or More	ERAKV	April 2018	280
	Offices required for Emergency Response right after Disasters	ERAKV	April 2018	98
	Except Reconstructed Office	NRA	April 2021	96
	Except Reconstructed Office	Office	July 2021	91
	Except Demolished Office	Office	July 2021	90
Step 3	Confirmed by Responsible Ministries	Responsible Ministry	-	Could not be confirmed
Step 4	Confirmed by Responsible Municipalities	Responsible Municipalities	January 2023	8

Source: JICA Expert Team

(2) Project Profile for High-Priority DRR Project

NDRRMA and JICA Expert Team visited the sites of all of the high-priority DRR projects of school, health facility and government building and prepared the project profiles (project information sheets), which include the status of building, reconstruction plan, and cost. School reconstruction cost was estimated based on the cost estimates prepared by the Emergency School Reconstruction Project (ESRP) implemented by CLPIU, MoEST. The health facility reconstruction cost was estimated based on the unit cost of NPR 65,000/sq.m obtained from the Nepal Health Sector Support Programme (NHSSP) under MoHP. The municipality and ward building reconstruction cost was estimated based on the average cost of actual construction of government buildings by the municipality. The municipality and ward building reconstruction cost was estimated based on the average cost of actual construction of government buildings by the municipality.

- Total reconstruction cost of high-priority DRR projects of the school:
  NPR 1,411.5 million (= JPY 1,482.1 million, NPR 1.00 = JPY 1.05)
- Total reconstruction cost of high-priority DRR projects of health facilities:
  NPR 223.6 million (= JPY 234.78 million, NPR 1.00 = JPY 1.05)
- Total reconstruction cost of high-priority projects of government buildings:
  NPR 477.4 million (= JPY 501.3 million, NPR 1.00 = JPY 1.05)

The following table shows a summary of high-priority DRR project profiles and the location of the high priority DRR projects are shown in the following figure.

Table 2.1-24 High-priority DRR Projects – Education

	SN	Name	Location	Building to be Reconstructed	Reconstruction Cost
1	E-2-K-204	Nepal Commerce Campus	Kathmandu Metropolitan City-31	3 story 12 medium classroom x 4 units	NPR 194.4M
2	E-3-K-233	Saraswoti Multiple Campus	Kathmandu Metropolitan City-16	3 story 12 medium classroom x 3 units	NPR 145.8M
3	E-4-K-240	Shree Rani Devi Lower Secondary School	Kathmandu Metropolitan City-26	3 story 12 medium classroom	N/A (Reconstructed)
4	E-5-K-246	Shree Tangal Higher Secondary School	Kathmandu Metropolitan City-5	3 story 12 medium classroom	NPR 48.6M
5	E-6-K-305	Shanker Dev Campus	Kathmandu Metropolitan City-28	3 story 12 medium classroom x 2 units	NPR 97.2M
6	E-7-L-504	Kumbeshwor Lower Secondary School	Lalitpur Metropolitan City-11	3 story 12 medium classroom (required modification)	NPR 48.6M
7	E-8-K-1077	Nirmal Vidyapeeth Secondary School	Kathmandu Metropolitan City-22	3 story 12 medium classroom (required modification)	N/A (Merged)
8	E-9-K-1079	Bal Sewa Secondary School	Kathmandu Metropolitan City-23	3 story 9 extra small classroom	NPR 33.3M
9	E-10-L-2268	Shree Mahalaxmi Higher Secondary School	Lalitpur Mahalaxmi-8	3 story 6 extra small classroom	NPR 25.0M
10	E-12-L-2272	Shree Mahalaxmi Higher Secondary School	Lalitpur Mahalaxmi-8	3 story 6 extra small classroom	NPR 25.0M
11	E-13-B-2421	Shree Kalika Lower Secondary School	Bhaktapur Changunarayan-8	3 story 6 extra small classroom	NPR 25.0M
12	E-14-K-2627	Bhairavnath Lower Secondary School	KATHMANDU-Chandragiri-10	3 story 12 medium classroom (required modification)	NPR 48.6M
13	E-15-K-2707	Prabhat Secondary School	Kathmandu Metropolitan City-25	3 story 12 medium classroom (required modification)	NPR 48.6M
14	E-16-L-3025	Adarsha Kanya Niketan Higher Secondary School	Lalitpur Metropolitan City-12	3 story 9 medium classroom	NPR 35.1M
15	E-17-L-3415	Lalit Kalyan Kendra Lower Secondary School	Lalitpur Metropolitan City-9	3 story 12 medium classroom (required modification)	NPR 48.6M
16	E-18-L-3885	Bhanodaya Primary School	Lalitpur Mahalaxmi-6	3 story 12 medium classroom	NPR 48.6M
17	E-19-L-3956	Shree Damaitar Lower Secondary School	LALITPUR-Godavari-1	3 story 12 medium classroom (required modification)	NPR 48.6M
18	E-20-K-4105	Shree Chandika Devi Secondary School	KATHMANDU-Chandragiri-2	3 story 6 extra small classroom	NPR 25.0M
19	E-21-L-4168	Shree Lubhu Secondary School	Lalitpur Mahalaxmi-8	3 story 12 medium classroom 3 storey 9 extra small classroom (required modification)	NPR 81.9M
20	E-22-B-4371	Faiddhoka Primary School	Bhaktapur Changunarayan-9	3 story 12 medium classroom	NPR 48.6M
21	E-23-K-4386	Jitpurfedi Higher Secondary School	Kathmandu-Tarkeshwar-5	3 story 12 medium classroom	NPR 48.6M

	SN	Name	Location	Building to be Reconstructed	Reconstruction Cost
22	E-25-L-4446	Shree Jalpa Secondary School	Lalitpur Metropolitan City-24	3 story 9 small classroom (required modification)	NPR 39.2M
23	E-26-K-4509	Shree Ram Janaki Lower Secondary School	Kathmandu-Gokarneshwar-1	3 story 12 medium classroom	NPR 48.6M
24	E-27-B-4650	Shree Kalika Secondary school	Bhaktapur Changunarayan-6	3 story 6 extra small classroom	NPR 25.0M
25	E-28-B-4674	Jorpati Secondary school	Bhaktapur Changunarayan-10	3 story 6 extra small classroom	NPR 25.0M
26	E-29-B-5041	Shree Antalingeshwori primary school	Bhaktapur Suryabinayak-1	3 story 6 extra small classroom	N/A (Merged)
27	E-30-L-5313	Shree Padma Prakash Secondary School	Lalitpur Metropolitan City-23	3 story 6 extra small classroom (required modification)	NPR 25.0M
28	E-31-B-5382	Bal Chetan Primary School	Bhaktapur Suryabinayak-7	3 story 6 extra small classroom (required modification)	NPR 25.0M
29	E-32-B-5583	Bhagawati primary School	Bhaktapur Suryabinayak-10	3 story 6 extra small classroom	NPR 25.0M
30	E-33-L-5650	Shree devi Higher Secondary School	LALITPUR-Godavari-7	3 story 6 extra small classroom (required modification)	NPR 25.0M
31	E-34-K-5670	Chandi bhairav Secondary School	KATHMANDU-Chandragiri-2	3 story 12 medium classroom	NPR 48.6M
32	E-35-K-5686	Chaupabot Higher Secondary School	Kathmandu-Shankharapur-1	3 story 12 medium classroom	N/A (To be reconstructed)
Total					**NPR 1,411.5M**

Source: JICA Expert Team based on the coordination with NDRRMA and MoEST

Table 2.1-25 High-Priority DRR Projects – Health Facility

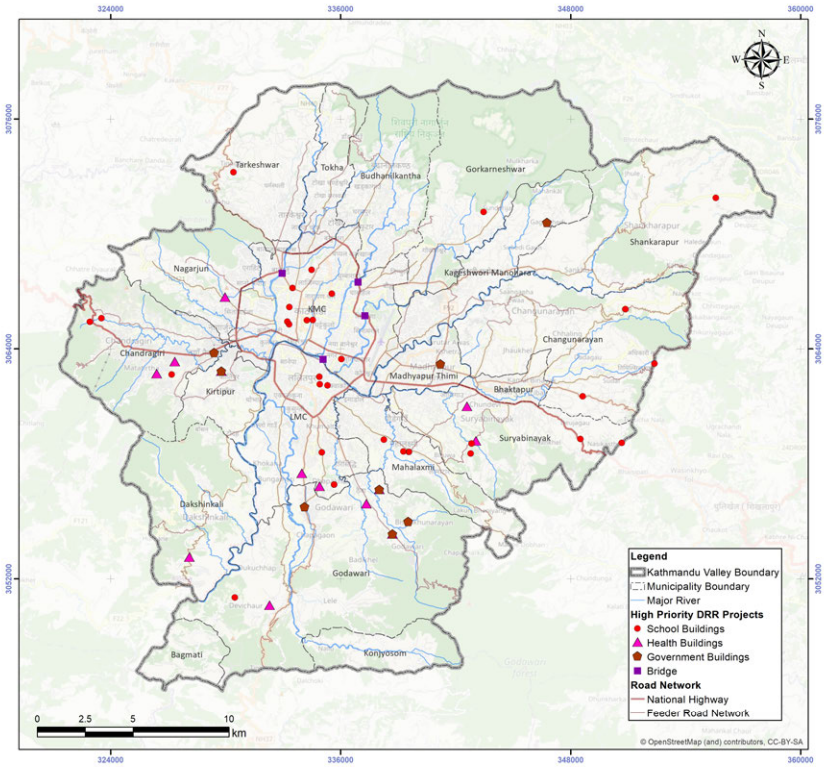
	SN	Name	Location	Building to be Reconstructed	Reconstruction Cost
1	H-1-L-156	Badegaon Primary health Centre	LALITPUR-Godawari-14	Primary Hospital Class B Type 3	N/A (Under construction)
2	H-2-K-174	Chaimale Sub Health Post	KATHMANDU-Dakshinkali-8	Health Post Type C (required modification)	NPR 19.7M
3	H-3-K-216	Matathirtha Health Post	KATHMANDU-Chandragiri-8	Health Post Type D	NPR 14.2M
4	H-4-K-221	Satungal Health Post	KATHMANDU-Chandragiri-10	Health Post Type C (required modification)	NPR 19.7M
5	H-5-L-355	Godamchaur Health Post	LALITPUR-Godawari-1	Health Post Type B (required modification)	NPR 22.7M
6	H-6-L-360	Godavari Sub Health Post	LALITPUR-Godawari-3	Health Post Type D (required modification)	NPR 14.2M
7	H-7-K-405	Sitapaila Sub Health Post	KATHMANDU-Nagarjuna-4	Health Post Type A (required modification)	NPR 35.5M
8	H-8-B-445	Gundu Health post	BHAKTAPUR-Suryavinayak-7	Health Post Type B (required modification)	NPR 22.7M
9	H-9-K-479	Paliphal SHP	KATHMANDU-Kirtipur-3	Health Post Type A (required modification)	NPR 35.5M
10	H-10-L-482	Sunakothi SHP	LALITPUR-Lalitpur Sub Metropolitan-27	Health Post Type C (required modification)	N/A (Under construction)
11	H-11-L-483	Dhapakhel HP	LALITPUR-Lalitpur Sub Metropolitan-24	Health Post Type C (required modification)	NPR 19.7M
12	H-12-L-494	Devichour HP	LALITPUR-Godavari-7	Health Post Type C (required modification)	NPR 19.7M
13	H-13-B-502	Katunje HP	BHAKTAPUR-Suryabinayak-5	Health Post Type A (required modification)	N/A (Under construction)
Total					**NPR 223.64M**

Source: JICA Expert Team based on the coordination with NDRRMA and MoHP

Table 2.1-26 High-Priority DRR Projects – Government Buildings

	SN	Name	Location	Building to be Reconstructed	Reconstruction Cost
1	G-1-B (240,241,242,243)	Madhyapur Thimi Municipality	BHAKATAPUR-Madhyapur Thimi-6	MOFAGA Type Design	NPR 365.4M
2	G-5-K	Ward Office Buiding – Chandragiri-15	KATHMANDU-Chandragiri-15	MOFAGA Type Design	NPR 22.4M
3	G-6-L	Ward Office Buiding – Godawari-1	LALITPUR-Godawari-1	MOFAGA Type Design	NPR 22.4M
4	G-7-L	Ward Office Buiding – Godawari-2	LALITPUR-Godawari-2	MOFAGA Type Design	NPR 22.4M
5	G-8-L	Ward Office Buiding – Godawari-3	LALITPUR-Godawari-3	MOFAGA Type Design	NPR 22.4M
6	G-9-L	Ward Office Buiding – Godawari-12	LALITPUR-Godawari-12	MOFAGA Type Design	NPR 22.4M
7	G-10-K	Ward Office Buiding – Kageshwori Manohara-1	KATHMANDU-Kageshwori-1	MOFAGA Type Design	N/A (Reconstructed)
8	G-11-K	Ward Office Buiding – Kirtipur-3	KATHMANDU-Kirtipur-3	MOFAGA Type Design	NPR 22.4M
Total					**NPR 477.4M**

Source: JICA Expert Team based on the coordination with NDRRMA and concerned municipalities



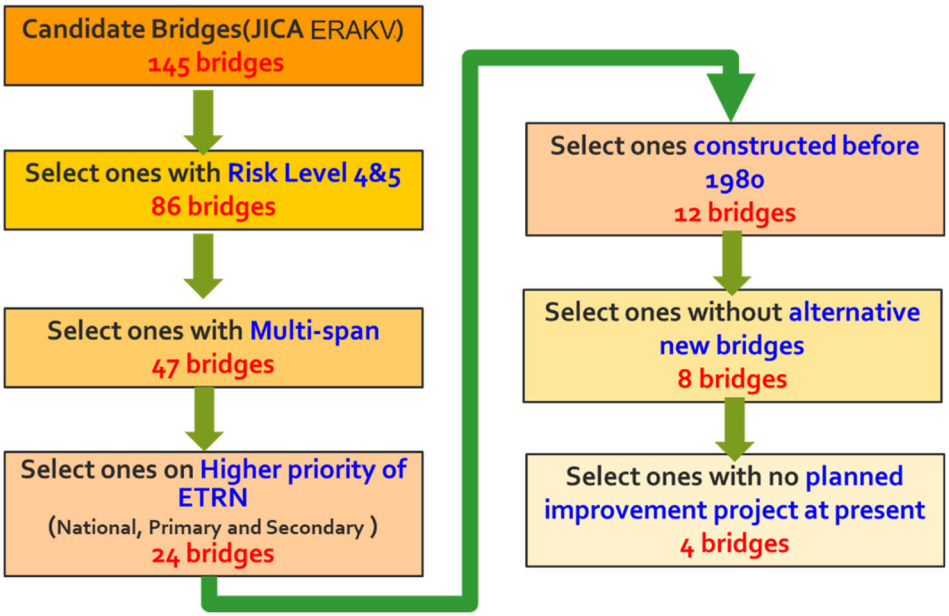
Source: JICA Expert Team

Figure 2.1-20 Location of High Priority DRR Projects

(3) Infrastructure and Lifeline

a) Bridges

For the 24 bridges listed in Activity 2-3, the JICA Expert Team conducted additional studies, comprising a literature review and site investigation. For the former, other reports that assessed the aseismic capability of bridges and the development of seismic design standards were reviewed to obtain knowledge about the aseismic capability of the said candidate bridges. As a result, it was found that it can be assumed that bridges constructed before the 1980s have lower seismic capability against the future predicted earthquakes due to the lower design codes against the seismic forces before 1980. For the latter, local experts started with the site reconnaissance of the 24 bridges from July to December 2021 to get information about damage level/severity and construction year for the listed bridges by interviewing the nearby residents, because it was confirmed that there are no design and construction documents/data in DOR. By the beginning of December 2021, all site investigations for the selected 24 bridges were completed and found 4 vulnerable bridges against the future predicted earthquake based on the damage severities and construction year (see the figures and table below).



Source：JICA Expert Team

Figure 2.1-21 High-priority DRR Projects Selection Process (Bridges)

At the end of December 2021, JICA Expert team submitted the four vulnerable bridges as the Priority Project List for Bridges to DoR. In response to the letter, DoR replied with the acceptance letter on February 4, 2022, after consultation with MoPIT on the recommendations by the JICA Expert Team. Although DoR recognized that proposed bridges by the JICA Expert Team have the necessity of bridge rehabilitation or replacement. However, since DoR has responsibility of bridges on the Strategic Road Network over the country, the priority of the proposed bridges has not high enough compared to the listed bridges by DoR for the entire Strategic Road Network.

Table 2.1-27 Results of Site Reconnaissance for the Selected Bridges

SN	Bridge No	Name	Structure Type	Length (m)	No. of Span	Width (m)	Damage Assessment Rating CNS-2	Road Name	Road Classificaton	Site Survey	Remarks
1	1	Hanumante	RC T-Beam	50.40	3	12.50	5	Araniko & Tribhuvan Highway	1	✔	2-lane new bridge added to both sides in 2011
2	2	Hanumante	RC T-Beam	50.40	3	9.10	5	Araniko & Tribhuvan Highway	1	✔	Old one constructed in 1973, and 2-lane bridge added to both sides
3	3	Manohara	RC T-Beam	80.00	5	13.00	4	Araniko & Tribhuvan Highway	1	✔	2-lane bridge added to both sides in 2011
4	13	Bishnumati	RC T-Beam	83.10	8	13.60	4	Araniko & Tribhuvan Highway	1	✔	Old one constructed in1956, & new one unopened due to quality issues
5	17	Bagmati	RC T-Beam	84.00	5	20.45	4	Araniko & Tribhuvan Highway	1	✔	4 lane old one in 1967. Two new arch brs were demolished due to bad quality
6	19	Dhobi Khola	RC T-Beam	50.90	3	20.52	4	Araniko & Tribhuvan Highway	1	✔	4 lane old bridge in 1962, 2 lane arch bridges on both sides in 2020.
7	**20**	**Bagmati**	**RC T-Beam**	**48.00**	**3**	**15.50**	**4**	**Ring Road**	**1**	**✔**	**2 lane bridge constructed in 1978?**
8	21	Manohara River	RC T-Beam	112.00	7	15.50	4	Ring Road	1	✔	4 lane old one in 1979(?), New bridge on both sides in 2018
9	22	Khasibazar	RC T-Beam	48.00	3	15.50	4	Ring Road	1	✔	4 lane old one in 1979(?), New bridge on both sides in 2018
10	23	Suichatar	RC Slab	13.60	2	15.60	5	Ring Road	1	✔	2 lane bridge constrcuted in 1978(?)
11	24	Bishnumati	RC T-Beam	64.00	4	15.50	5	Ring Road	1	✔	4 lane bridge constructed in 1968(?)
12	**26**	**Dhobi Khola**	**RC T-Beam**	**48.00**	**3**	**15.50**	**4**	**Ring Road**	**1**	**✔**	**2 lane bridge constructed in 1968(?)**
13	27	Bagmati River	RC T-Beam	128.00	8	15.50	4	Ring Road	1	✔	4 lane old bridge in 1977, 2 lane New bridge on both sides in 2018.
14	**29**	**Bishnumati**	**RC T-Beam**	**60.00**	**4**	**12.80**	**4**	**Balazju-Naya Bazar Road**	**2**	**✔**	**2 lane bridge constructed in 1970(?)**
15	39	Bishnumati	RC T-Beam	74.10	2	12.30	5	Swayambhu-Sohrakhutte road	3	✔	2lane new bridge constructed in 2003, no old br. exists
16	47	Manohara	RC T-Beam	60.20	3	10.95	4	Jadibuti-Thimi-Sallaghari Road	3	✔	2-lane bridge constructed in 2003 with no stopper
17	53	Bagmati	Steel Plate Girder	153.60	6	10.67	4	Thapatali-Ekantakuna Road	2	✔	2 lane old one in 1969,& 3 lane new bridge in 1994 by JICA
18	62	Sinamangal	RC T-Beam	58.30	4	7.60	5	Sinamangal-Dilli Bazar Road	3		**A new 2-lane bridge added to the old one recently**
19	**67**	**Shankhamul**	**RC T-Beam**	**50.45**	**3**	**11.70**	**5**	**Shankhamul - Chakupat Road**	**3**	**✔**	**2-lane one built in 2012 on detour route from airport to Lalitpur.**
20	68	Bagmathi	RC T-Beam	87.05	4	8.10	5	Tripureshwar - Sanepa Road	3	✔	Narrow 2-lane bridge built in 2011.less crowded
21	91	Bishnumati	RC T-Beam	36.00	2	7.90	5	Banasthali – Sorhakhutte Road	3	✔	Narrow 2-lane bridge built in 2012.less crowded
22	93	Tankeshwari	RC T-Beam	76.40	5	11.20	4	Tahachal – Newroad Road	3	✔	A narrow old one built in 1985 & new one under construction
23	94	Teku Dovan	RC T-Beam	62.73	3	6.20	5	Teku – Kuleshwar Road	3	✔	2-lane bridge constructed in 2009, no footpath.
24	101	Nilo Pul	RC Slab	14.10	3	8.10	4	Sukedhara – Kapan Road	3	✔	narrow 2-lane bridge constructed in 2015

Note: Road classification: 1:The National Emergency Transportation Route, 2: The Primary ones, 3: the Secondary ones

Source: JICA ERAKV project and JICA Expert Team

Activity 2-5-2 Discussion and consensus with relevant ministries

(1) Buildings

The high-priority DRR projects have been discussed and agreed with MoEST, MoHP, MoPIT and municipalities for school, health facility, bridges and municipal buildings, respectively. The high-priority DRR projects were approved by the third JCC, which was held on April 18, 2023. To officialize the high-priority DRR projects, the NDRRMA has issued the request letter for approval of the high-priority projects to the MoHA on November 21, 2023. The NDRRMA and the MoHA have discussed the high-priority DRR projects for implementation and have been considering sending the Executive Committee for approval of the high-priority DRR projects. The high-priority DRR projects list was then duly approved by the 21st Executive Committee, chaired by the Home Minister, on April 15, 2024. .

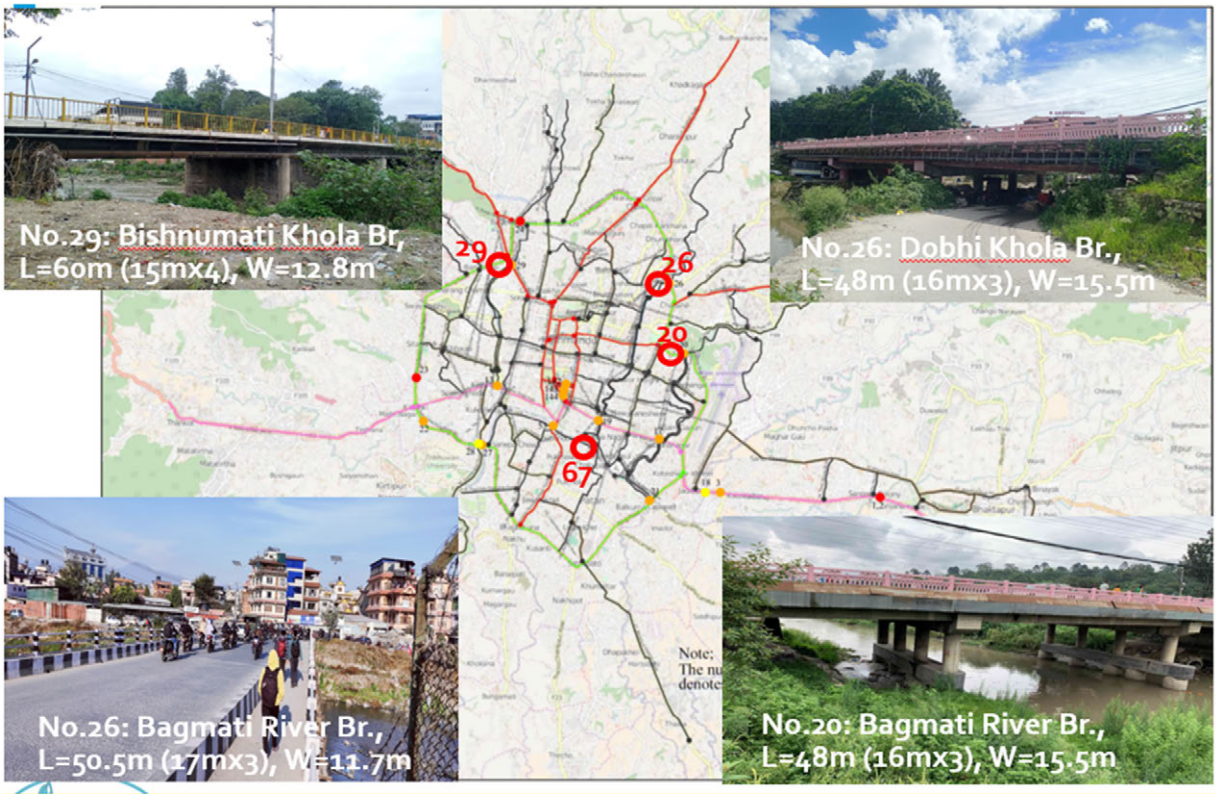
(2) Infrastructure and Lifeline

The high-priority DRR projects have been discussed and agreed with MoPIT for bridges by February 2023. To make the high-priority DRR projects official, the high-priority DRR projects were approved at the third JCC which was held on April 18, 2023. To officialize the high-priority DRR projects, the NDRRMA issued a request letter for approval to the MoHA on November 21, 2023. As a result of further arrangement by NDRRMA, the Executive Committee, chaired by the Home Minister, approved the high-priority DRR project list proposed by the Project on April 15, 2024. Following the approval of the high-priority DRR projects, although NDRRMA with JICA expert team visited the DoR and MoPIT to promote the incorporation of the DRR project in the budget for the coming fiscal year, it was too late because the budget application by the ministry had been already completed. Accordingly, the NDRRMA and the JICA Expert Team started with an action plan for facilitating the incorporation of the DRR projects in next year's government budget.

As a result of the promotional activity, the DoR has listed two-the proposed DRR projects for bridges in the fiscal year 2025/26 as follows.

- Bridge No.29 and No. 67: Listed in the fiscal year 2025/26 budget but the budget is only indicative, which means if somehow the DoR gets sufficient amount of the budgets for these bridges, they can initiate its construction.

However, the remaining two bridges, No.20 and No.26, which both are on the Ring Road, were not listed in the fiscal year 2025/26 budget. It is assumed that both bridges are located on the final section of the Ring Road improvement project and the feasibility study for the section has not been approved yet due to some sections holding land acquisition issues.



Source: JICA ERAKV project and JICA Expert Team

Figure 2.1-22 Recommended 4 Vulnerable Bridges as Priority Project List

Activity 2-6 Prepare financing options and develop financing models, such as government budget, budget supported by Development Partners and Public Private Partnership (PPP), basket funds for implementation of priority projects for DRR in the KV, in coordination with the concerned ministries

Activity 2-6-1 Prepare financing options and develop financing models

As a result of a series of discussions with JICA, the JICA Expert Team found that JICA did not have any funds to implement the high-priority DRR projects. The JICA Expert Team and NDRRMA discussed alternative financing options and came up with two options: each ministry's budget and other donor funds.

Activity 2-6-2 Discussion and consensus with concerned ministries

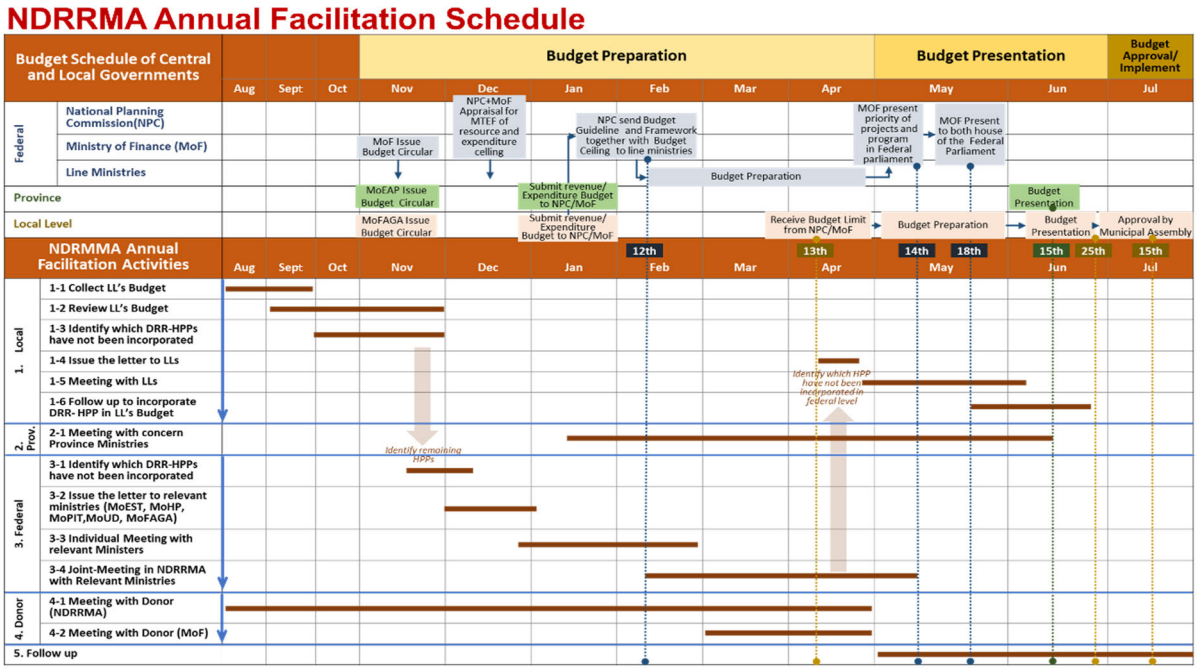
NDRRMA requested that ministries include high-priority DRR projects in their Annual Work Plan and Budget by letter. NDRRMA conducted a promotion meeting for the high-priority DRR projects with relevant ministries by inviting them to the NDRRMA. However, only MoUD and MoHP attended the meeting and provided some advice on it. Even though two ministries understood the importance of investment on the high-priority DRR projects, they could not make a commitment to include the projects into the work plan and secure the budget since they needed to discuss the budget request within the ministry.

JICA Expert Team discussed and introduced the high-priority DRR projects to the concerned local levels during the high priority DRR project selection process and NDRRMA issued the request letters on January 2023 to the concerned local levels for the implementation of the high priority DRR projects. It was confirmed by August 2025 that 23 high-priority DRR projects, including 2 bridges, out of 57 projects, have been incorporated into the annual work plan of eight local levels and MoPIT. The 23 high priority DRR projects are 3 projects in FY 2022/2023, 7 projects in FY 2023/2024, 6 projects in FY 2024/2025 and 7 projects in FY 2025/2026.

The high-priority DRR projects were introduced to other donors on June 19, 2025, while consulting with NDRRMA, MoHA, and MoF, since the high-priority DRR projects were approved by the Executive Committee chaired by the Home Minister. Two donors, UNDP and Swiss Embassy, participated in the meeting, however, they did not show interests in implementing the high-priority DRR projects. NDRRMA requested JICA's further involvement with the high-priority project.'s further involvement with the high-priority projects.

Activity 2-7 Facilitate consultation with concerned ministries to integrate high-priority DRR projects into the respective Annual Work Plans

As explained in Activity 2-6 the concerned ministries could not include the high-priority projects into the Annual Work Plan, NDRRMA will continue efforts by individually approaching them. JICA Expert Team encouraged NDRRMA to update the high-priority DRR projects and to have consultation meetings with relevant ministries in the succeeding fiscal years. To streamline the coordination efforts, the NDRRMA and the JICA Expert Team prepared an annual facilitation schedule for coordination meetings among the concerned ministries and other stakeholders as shown below.



Source: NDRRMA and JICA Expert Team

Figure 2.1-23 Annual Facilitation Schedule

Activity 2-8 Facilitate the preparation of proposals of high-priority projects to secure the budget from Development Partners and PPP in coordination with the concerned ministries

Activity 2-8-1 Hold a consultation meeting to support concerned ministries and agencies in their proposal formulation

As explained in Activity 2-6, no donors have shown their interest in implementing high-priority projects so far. Therefore, there was no opportunity to have a consultation meeting to formulate the proposal to secure the budget.

Activity 2-8-2 Provide lectures to the executing agencies (ministries and agencies) on financing method, etc.

As same as above 2-8-1, there was no opportunity to provide lectures.

3) Output 3

Activity 3-1 Review the contents of DRR for Local Disaster and Climate Resilience Plan (LDCRP) /Disaster Preparedness and Response Plan (DPRP) of LLs in the KV

Activity 3-1-1 Survey the current progress of formulation and implementation of LDCRP/DPRP of LLs in the KV

At the beginning of the Project, there were two guidelines related to the local DRR plan in Nepal: the "Local Disaster and Climate Resilience Planning (LDCRP) Guidelines" formulated by the MoFAGA and the "Guidance Note for Disaster Preparedness and Response Planning (DPRP)" formulated by the

MoHA. There are descriptions of DRR in both guidelines; however, their objectives and structures differ. Firstly, the actual plans formulated by the LLs in KV according to both guidelines were collected, and the contents were reviewed.

DRRM-related plans, created by the 18 local governments in the Kathmandu Valley, have been compiled to facilitate a review of the contents of the Local Disaster and Climate Resilience Plan (LDCRP) and Disaster Preparation and Response Plan (DPRP). All 18 LLs were visited by the JICA Expert Team between January and March 2021. Table 2.1-28 shows the LDCRP/ DPRP formulation status. Additionally, the local DRRM Act, the LDCRP/DPRP, and pertinent data have all been gathered. To gather more data and verify the status of the formulation, a follow-up survey was carried out.

Regarding the LDCRP, including LDRMP as a DRR plan at the municipality level, it was identified that the six local governments had formulated the plan, based on the survey. Out of six, the LDCRPs for three municipalities (Budhanilkantha, Lalitpur, and Bhaktapur) have been formulated by "The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal (2015-2018)" (JICA ERAKV Project) as a pilot activity in 2018. Except for these three municipalities, only three municipalities had formulated LDCRP. Since twelve municipalities out of 18 municipalities had not prepared the LDCRP as of March 2021, the formulation of the local DRR plan needed to be promoted. As for the DPRP at the municipality level, only three municipalities out of 18 had worked for formulating the DPRP. Thus, the identification of activities for disaster preparedness and responses at the municipality level needed to be encouraged. On the other hand, all 18 LLs in KV had established DM fund and started its operation as of March 2021. The operation guidelines for DM fund had been also formulated in most municipalities in KV.

Table 2.1-28 Summary Table of Formulation Status of LDCRP/DPRP and Relevant Documents (as of March 2021)

S.N.	Major information on DRR	Yes	In Process	No	Total
1.	Periodic Development Plan (PDP)	9	1	8	18
2.	DRRM Act	18	-	-	18
3.	LDCRP	5	-	13	18
	LDRMP	1			
4.	DPRP	2	1	15	18
5.	Disaster Management (DM) Fund	18	-	-	18
6.	DM Fund Operation Guideline	16	-	2	18

Source: JICA Expert Team

Activity 3-1-2 Consider the contents and methods for review of LDCRP/DPRP

The review items and contents for the DRR part of LDCRP/DPRP were examined. JICA has developed the "8 Steps the Practical Guide for Developing Local DRR Strategies/Plans" (JICA's 8 Steps) as shown in the table below. JICA's 8 steps are practical and feasible methods to develop and improve a local DRR strategy/plan with step-by-step methods to promote investment and the steady implementation of measures to reduce risks. Therefore, it is possible to verify the contents and practicability of LDCRP/DPRP by conducting a review in line with JICA's 8 steps. The viewpoints of the review for the DRR part of LDCRP/DPRP were summarized as shown in the table below.

Table 2.1-29 Review Items for Checking DRR Content

JICA's 8 Steps		Item for Review
1	Collecting local hazard information	• Are the disaster histories shown?
2	Understanding local disaster risks	• Are hazard and risk assessments implemented, or are the results of federal government and other organizations (e.g., JICA ERAKV Project) utilized? Is there a scientific basis?
3	Confirming DRR plans by national and other authorities	• Are there links with the national and higher-level plans (the DRR National Strategic Plan of Action)?
4	Identifying residual risks considering time-series	• Are the residual risks identified considering time series?
5	Listing all necessary DRR measures by local governments	• Are the DRR measures listed based on the residual risks?
		• Are the DRR measures (structural measures and non-structural measures) linked with the structural measures by the high-level governments?
		• Are there considerations and measures for gender issues and for people in vulnerable situations?
6	Prioritizing DRR measures	• Are the DRR measures prioritized with their validity?
		• Are the DRR measures linked with the priorities for action and global targets in the SFDRR?
7	Arranging budget allocation in necessary levels	• Is the municipal budget secured for the DRR based on the plan for DRR?
		• Is there a budget securing mechanism, such as integration into the development plan?
		• Has the budget been requested from the Federal government?
8	Implementing DRR measures and reviewing periodically	• Has the implementation been monitored and evaluated?
		• Has the plan for DRR been updated regularly, or is the schedule to be updated described in the plan for DRR?

Source: JICA Expert Team

Activity 3-1-3 Review the contents of the DRR part for LDCRP/DPRP

The five LDCRPs formulated in Lalitpur Metropolitan City, Bhaktapur Municipality, Budhanilkantha Municipality, Godawari Municipality, and Changunarayan Municipality, and the Disaster Risk Reduction and Management Action Plan (DRRMAP) 2019-2020 formulated in Kathmandu Metropolitan City (KMC) were reviewed by the JICA Expert Team based on the items of JICA's 8 steps as shown in Table 2.1-29. The result of the review, according to each step, is summarized below.

Regarding the collection of local hazard information, while the historical disaster information was compiled in 4 LDCRPs in Lalitpur Metropolitan City, Bhaktapur Municipality, Budhanilkantha Municipality, and Changunarayan Municipality, the remaining two plans lacked detailed hazard descriptions of the municipalities. In terms of understanding local disaster risks, on the LDCRPs of Godawari Municipality and Changunarayan Municipality, there are no scientific risk assessments (damage estimation), although there are results of simple VCA (Vulnerability and Capacity Assessment). The KMC-DRRMAP lacked detailed information about local disaster risks, as the plan focuses on the DRRM actions. The LDRCRP of Lalitpur Metropolitan City, Bhaktapur Municipality, and Budhanilkantha Municipality, scientific hazard and risk assessments implemented by the JICA ERAKV Project, were incorporated.

The six plans reviewed by the JICA Expert Team did not have a clear linkage with the Disaster Risk Reduction National Strategic Plan of Action (DRR-NSPoA) 2018-2030, as the plans were formulated before the preparation of the Action Plan. As for the residual risks, none of the six plans identified the ongoing measures for DRR and the residual risks. As for listing all necessary DRR measures by local governments, there were some differences between the contents, such as actions for DRRM on existing LDCRPs and the DRR-NSPoA. Regarding the points on the linkage with the structural measures, LDCRPs of Godawari Municipality and the KMC-DRRMAP seem to somehow focus on non-structural measures, while both plans include both structural and non-structural measures. In addition, it was also observed that some plans are missing the linkage with structural measures by the high-level governments, while it is essential to address the DRR in the municipalities. The plans reviewed by the JICA Expert Team included the activities incorporating gender issues and for people in vulnerable situations.

The priority of DRR measures was described in each plan. On the one hand, some plans, such as the LDCRP of Godawari Municipality and KMC-DRRMAP, were missing the clear connection with the priorities for action and global targets in the SFDRR. Regarding the point on arranging budget allocation into necessary levels, the six plans reviewed seem to mostly rely on the municipal internal budget, based on the review. However, the integration into the development plans and the coordination with federal and provincial agencies and other stakeholders were not fundamentally mentioned in those plans. As for the monitoring and evaluation aspect, four plans, which are the LDCRPs of Lalitpur Metropolitan City, Bhaktapur Municipality, Budhanilkantha Municipality, and Godawari Municipality, had explanations about the implementation, monitoring, and evaluation cycle, while the other two plans did not have those descriptions.

Activity 3-2 Review and develop the Guidelines for formulation of LDCRF

Activity 3-2-1 Identify promotion and inhibition factors related to the formulation and implementation of LDCRP/DPRP

The DRR part of the guidelines for developing the LDCRP/DPRP was reviewed. As described above, there are two guidelines related to the local DRR plan in Nepal: the LDCRP guideline formulated by the MoFAGA and the DPRP guideline formulated by the MoHA.

The “Local Disaster Risk Management Planning guidelines (LDRMP Guideline)”, approved by the MoFALD in 2011, describes the process for developing disaster management plans at the Village Development Committee (VDC) level and the municipal level in consultation with community members. The LDRMPs have undergone revision to combine local climate change adaptation and DRM into one coherent plan as the “Local Disaster and Climate Resilience Planning Guidelines (LDCRP Guideline)”. The LDCRP Guideline was drafted in 2017 by MoFALD, currently MoFAGA. It is an essential planning tool for the Local Levels under the federal system. According to the Disaster Risk Reduction in Nepal Status Report 2019, over 460 plans have been completed by the end of 2015.

MoHA spearheaded the planning for disaster preparedness and response guidelines. The “Guidance Note on Disaster Preparedness and Response Planning (DPRP Guideline)” was developed by the MoHA in 2011. The DPRP Guideline is considered a milestone for organizing effective disaster preparedness and

response planning at the District, Regional, and National levels of government. At the district level, Disaster Preparedness and Response Plans (DPRPs) have been completed in 75 districts, and they are revised yearly before the monsoon season. These plans outline key actions and responsibilities for district authorities to prepare for and respond to disasters (Disaster Risk Reduction in Nepal Status Report 2019). Moreover, the DPRP Guideline was amended in 2019 in accordance with the DRRM Act, including the federal system, and the Guideline has also been targeted at the local level.

Both guidelines were reviewed according to the review items as shown in Activity 3-1. According to the review of the guidelines, the following points were clarified. It was discussed in detail with the C/Ps of NDRRMA. Since these documents are not the actual plan, but the guidelines, the review is conducted to determine whether the descriptions of guides related to each review item in accordance with the main contents and plan template are shown in the guidelines.

- DPRP guidelines mainly focus on preparedness and emergency response.
  The main bodies of the DPRP guideline, including the purpose and outline, describe disaster mitigation. The actual table of contents and detailed contents focus on preparedness and emergency response. On the other hand, the LDCRP guideline covers all DRRM cycles from disaster prevention and mitigation, preparedness, emergency response, and rehabilitation and reconstruction. Since the target of this project is promoting DRR, accordingly, the coordination of both guidelines related to the contents and structure for prevention/mitigation and preparedness is required through discussion with NDRRMA, MoHA, and MoFAGA.

- Overlapping contents such as information on historical disasters, risk analysis, and an action plan for preparedness and the emergency response phase.
  Both guidelines have overlapped contents, such as information on historical disasters, risk analysis, and an action plan for preparedness and the emergency response phase, as pointed out above. It is required to make coordination so that the overlapping contents are unified.

- Considering residual risks
  The current sample form, which lists the DRR measures of both guidelines, is not based on the residual risks. The Disaster Risk Reduction National Strategic Plan of Action was formulated in 2018, and the strategic activities are listed in the Plan for each level: the federal, provincial, and local levels. Thus, LDCRP/DPRP should be linked with the Disaster Risk Reduction National Strategic Plan of Action and also require the identification of residual risks considering time series based on the implementation of DRR measures by the federal and provincial governments.

- Utilization of the risk assessment results
  The results of hazard and risk assessment are the most important to identify the high-risk areas and to consider the necessary DRR measures to mitigate these risks. Methods of hazard and risk assessment in both guidelines are different, and there are no detailed hazard and risk assessment methods, such as the scientific risk assessment (damage estimation) by the JICA ERAKV Project. Seismic risk assessment, by the JICA ERAKV Project, was implemented by a scenario-oriented deterministic approach. The risk was estimated, in principle, by considering seismic hazard (PGA of ground motion), vulnerability of structure (damage function), and exposure (total number of

vulnerable structures), as an engineering assessment based on scientific research and investigation results, but with inevitable assumptions.

- Both documents do not discuss DRR investment (DM funding) and DRR financing (mainly insurance)
- Both documents miss out on the detailed monitoring and evaluation of the DRR projects

Activity 3-2-2 Identify hazard and risk assessment methods to update the DRR part of the Guidelines for formulation of LDCRP/DPRP

To formulate the Guidelines for developing the LDCRP/DPRP, identifying existing and future local risks is required, along with the necessary DRR measures to mitigate disaster risks. Considering the capacity and resources of the local level, the existing hazard/risk assessments can be utilized for planning. Therefore, the JICA Expert Team has collected the information and methods of existing hazard and risk assessment studies that were conducted by JICA and other agencies.

In addition to utilizing existing hazard and risk assessment, in case of insufficient information, the historical disaster records can be utilized for efficiency in terms of time and budget. The data from the BIPAD Portal (https://bipadportal.gov.np) was analyzed, and these data collection procedures were incorporated into the updated guideline.

Activity 3-2-3 Identify measures and solutions for updating the DRR part of the Guidelines for formulation of LDCRP/DPRP

Based on the results of the review, namely, Activities 3-1 and 3-2, the JICA Expert Team proposed the following points for updating and upgrading of the LDCRP/DPRPs at the local level and their guidelines more effective and practical to promote the DRR investment. The results of reviews and identification of measures and solutions for the guideline have been discussed in detail with NDRRMA.

(1) Integrating the DRR part of LDCRP/DPRP in the guideline

As reviewed above, two guidelines related to DRR, the LDCRP Guideline and DPRP Guideline, have overlapped contents, especially the hazard and risk analysis part and whole contents, including action plans for preparedness and the emergency response phase. Therefore, the integration of the DRR part in these two guidelines should be clarified so as to avoid or resolve the confusion of the LLs. Its integration is listed as one of the strategic activities in the DRR National Strategic Plan of Action ("Prepare integrated guidelines of local level Disaster Risk Management and Climate Change Adaptation Guidelines and Directives (CAPA, LDRMP, LAPA, DPRP)" in the Priority Area 2: Strengthening Disaster Risk Governance at Federal, Provincial and Local Levels). Moreover, the guidelines should be discussed and updated to make planning practical based on the results of the hazard and risk assessment, examination of strategic targets that will contribute to the SFDRR, consideration of priority measures, and identification of the residual risks from the higher-level plans. Besides, the updating should be conducted following the roles and responsibilities of LLs in the DRRM Act and the DRR National Strategic Plan of Action.

(2) Utilizing the results of the seismic risk assessment of the JICA ERAKV Project to set DRR strategies and consider countermeasures with priority

For the risk analysis on the planning, the LDCRP Guideline adopts the VCA (Vulnerability and Capacity Assessment). However, in the Kathmandu Valley, a detailed seismic risk assessment with damage estimation, by the JICA ERAKV Project, was implemented by a scenario-oriented deterministic approach. The risk was estimated, in principle, by considering seismic hazard (PGA of ground motion), vulnerability of structure (damage function), and exposure (total number of vulnerable structures), as an engineering assessment. The purpose of the earthquake risk assessment is not the assessment itself but to connect the results to the actual DRR countermeasures and disaster risk reduction. The benefits of risk assessment can be summarized as follows.

- It can be utilized to set the Numerical DRR target based on engineering results.
- Based on the target, the countermeasures to achieve DRR targets can be considered.
- It can be used for prioritizing countermeasures for critical infrastructures such as schools, health facilities, governmental buildings, and bridges.
- Activities can be implemented with effective monitoring based on the DRR ratio (level of DRR target to achieve).

(3) Aligning with the "Disaster Risk Reduction National Strategic Plan of Action 2018-2030" to identify and reduce the residual risks

The Disaster Risk Reduction National Strategic Plan of Action was formulated in 2018, and the strategic activities are listed in the Plan for each level: the federal, provincial, and local levels. Thus, LDCRP/DPRP should be harmonized and linked with the Disaster Risk Reduction National Strategic Plan of Action and also requires the identification of residual risks considering time-series based on the implementation of DRR measures by the federal and provincial governments.

Output 2 of this Project supports the selection of priority projects for DRR in the KV and delivers these selected projects to the implementation phase. Therefore, the priority DRR measures to be implemented by LLs can be coordinated with the priority projects in Output 2, considering the residual risks.

(4) Establishing a budget-securing mechanism.

Implementing the countermeasures on the DRR Plan and Action Plan is essential. Accordingly, reflecting the idea in the urban plan and the development plan of each local level, and mainstreaming the idea for DRR countermeasures is necessary. Thus, the budget securing mechanism with integration into the periodic and annual development plan should be established.

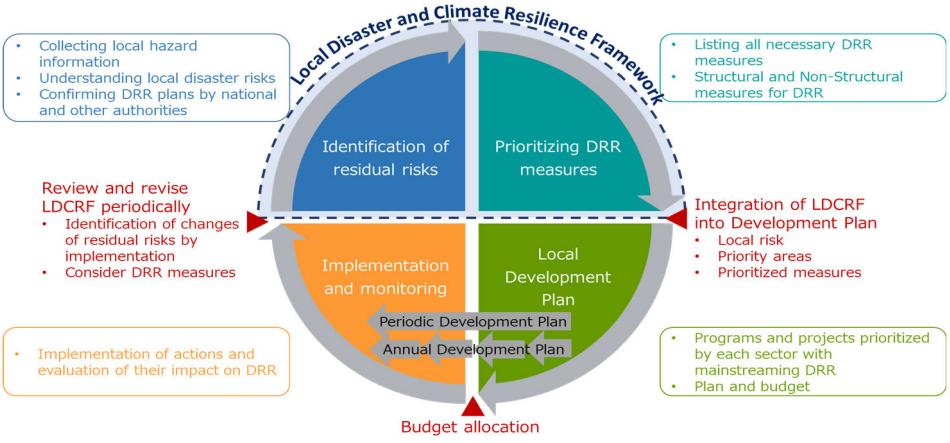
In addition, for the implementation of DRR projects by local governments, the use of the Disaster Management Fund (DM Fund) as stipulated in the DRRM Act should be considered, although the operation and management policy has not been established yet. The implementation framework for local DRR should be built to foster local autonomy through the implementation of DRR projects.

The JICA Expert Team and NDRRMA have discussed the measures and solutions for the update of the DRR part of the Guidelines for the formulation of LDCRP/DPRP. Based on the discussion, it has been agreed to develop a new guideline, tentatively entitled "Guideline for the Formulation of Local Disaster

Resilience Framework (LDRF) for Urban Municipalities". Then, considering the importance of climate change adaptation and through the discussion of finalization, the title of the guideline was changed to "Guideline for the Formulation of Local Disaster and Climate Resilience Framework (LDCRF)".

The fundamental concepts of the Guideline for the LDCRF are summarized as follows:

Table 2.1-30 Concepts of the Guideline for the LDCRF

Item	Concept
Title	• Guideline for the Formulation of Local Disaster and Climate Resilience Framework (LDCRF)
Definition of the Guideline	• A supporting manual aiming to give guidance and is to be utilized as a reference document so that Local Level can understand its detail contents, procedure for developing LDCRF to promote DRR investment.
Structure of the Guideline	• Main Guideline • Annexes (Step by step procedures based on the JICA's 8 Step) (See Activity 3-2-3)
Justification of LDCRF	(a) This framework facilitates the preparation of the Local Disaster and Climate Resilient Framework (LDCRF) including the tasks, duties, rights and responsibilities of the local level (b) Local disaster and climate resilience frameworks help to localize the SFDRR for Disaster Risk Reduction (2015-2030), Sustainable Development Goals (SDGs 2015-2030), Paris Agreement (2015). (c) To mainstream the issue of disaster management and climate change in the development plans of the three levels of government, the framework will act as a coordinated document to adopt integrated strategic action plans, coordination, cooperation, disaster and climate risk reduction measures. (d) Following Section 48 of the Disaster Risk Reduction and Management Act, 2074, and Rule 3 of the Disaster Risk Reduction and Management Regulations, 2076, this directive has been prepared and implemented to facilitate the construction of the Local Disaster and Climate Resilience Framework (LDCRF) at all local levels.
Objective of LDCRF	(a) Local disaster and climate resilience plans, disaster preparedness and response plans, and local adaptation action plans prepared and implemented at the local level before the implementation of the LDCRF are incorporated into the framework. (b) To guide the formulation of disaster risk and climate resilience frameworks to be prepared at the local level. (c) Assist in mainstreaming disaster risk reduction and management and climate resilience planning into the development process. (d) Assist in building disaster and climate-resilient communities. (e) Ensuring the inclusive participation of all sectors, communities, and target groups in disaster planning at the local level.
Target stakeholders	• Mayor/Deputy Mayor and Chief Administrative Officer (Understanding mainstream DRR) • Disaster risk management department/section (Overall Disaster Risk Management) • Urban infrastructure and building department (Mainstreaming DRR into development) • Planning, Finance, GESI, and other necessary departments (Making annual/periodical plan/budget)
Incentive framework for formulation of the framework and budgeting for implementation	• Integrated into the Periodic Development Plan, Annual Plan/Budget (See figure below.)  • Incorporation into LISA (Local Government Institutional Self-Assessment) (i.e., addition of score for the formulation of the local plans for mainstreaming the DRR) • Budgeting: Utilization of the DM fund

Source: JICA Expert Team

Activity 3-2-4 Update the DRR part of the Guidelines for the formulation of LDCRP/ DPRP

The JICA Expert Team formulated the draft guideline for "Local Disaster and Climate Resilience Framework" as agreed with NDRRMA based on the above Activity 3-2-3. After the draft was formulated, the guidelines have been revised many times based on discussions with NDRRMA, relevant ministries and agencies, and experts. In April 2023, during the process of coordinating among concerned ministries and the finalization stage of the LDCRF guideline, the integration with the directives being developed by MoFAGA was required to develop a single guideline for local levels, in the same direction for Resilience as the federal government. Thus, the NDRRMA established a task force team consisting of the relevant ministries, such as MoFAGA, NPC, etc., and many meetings were held for finalization of the LDCRF guideline as follows.

Table 2.1-31 Formulation Schedule of the LDCRF Guideline

Year	Month		Activities
2021	October - December		• Discuss a drafted outline for developing guidelines with NDRRMA • Share the results of meetings with the municipality
	October-December		• Status, issues of LDCRP, etc., and discuss the new guideline
2022	January-March		Draft by the JICA Expert Team with NDRRMA, and discuss a draft Guideline
		March 31	Coordination Workshop with Municipalities • Participants: NDRRMA, Municipalities
	April - July		Revision of the Guideline
		July 19	Coordination Meeting with Ministries and Municipalities • Participants: NDRRMA, MoEST, MoUD, MoFE, HPCIDBC, Municipalities • Discuss policies, plans, and projects about DRR
	August - December		Feedback from ministries and municipalities • Meetings with MoFAGA and other ministries, municipalities about the Guideline
		December 18	Task force meeting on draft LDRF • Participants: NDRRMA, OPMCM, DHM, MoEWRI, MoFAGA, MoFE
		December 21	Coordination Meeting with Municipalities regarding the guideline • Participants: NDRRMA, MoHA, MoUD, MoFE, DHM, Municipalities
2023	January - March		Feedback from municipalities conducting meetings
	April - September		Task force meetings for finalization (NDRRMA, MoFAGA, NPC, MoUD, MoFE) Translation into Nepali
	October		Final draft completed

Source: JICA Expert Team

The task force team has finalized the draft of the LDCRF guideline at the beginning of September 2023. Thereafter, particularly the contents of LAPA (Local Adaptation Plans of Action) related to climate change adaptation have been integrated into the LDCRF guideline based on the discussion with the Ministry of Forest and Environment, such as holding the workshops on September 19 to 20, 2023, etc. The final draft of the Guideline for the Formulation of LDCRF was completed in October 2023 and has been submitted to the relevant ministries officially as a formal circular to obtain feedback.

In response to the feedback received, a meeting was held with NDRRMA and MoHA for two days, February 28 to 29, 2024, to confirm the results of responses to feedback. In addition, the entire guideline was reviewed again and revised as necessary during the meeting, and a final agreement was reached.

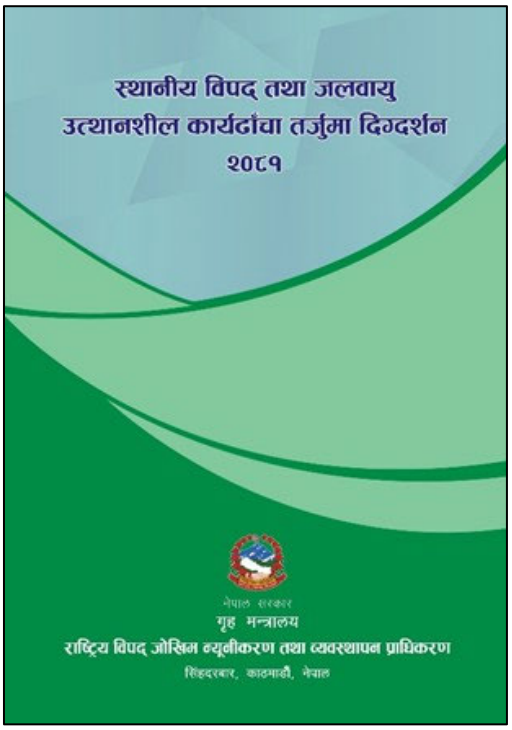
Finally, the Guideline of LDCRF has been approved officially by the 22nd Executive Committee Meeting, chaired by the Home Minister, on May 3, 2024, as follows.

[Decisions by the 22nd Executive Committee Meeting]

Proposal 5: Regarding Local Disaster and Climate Resilience Framework Preparation Guideline, 2024
Decision no 5: Approval of Local Disaster and Climate Resilience Framework Preparation Guideline, 2024 prepared with the aim of integrating the various plans and documents related to disaster management and climate change adaptation currently in practice at local level and mainstreaming disaster risk reduction and management and climate resilience planning into the overall development system of the local level and with the objectives to guide the preparation of local disaster and climate resilience framework.

The printing of the guideline was approved in December 2024. The printing of the Guideline was completed in January 2025, and the soft copy has been uploaded to the NDRRMA website (https://ndrrma.gov.np/en/policies-and-directory/167) so that all relevant stakeholders can download it.

The structure of the guideline is shown as follows. The guidelines are divided into two parts: the main guidelines and annexes that describe how to proceed step by step. The main document of the guidelines includes legal background, rationale, objectives, and an overview of each of the five steps for preparing the LDCRF. The annexes are based on JICA's 8 Steps and are tailored to the context of Nepal, consist of five steps and ten annexes. By proceeding through each step, such as understanding disaster risks, identifying residual risks, listing all necessary DRR measures, prioritizing DRR measures, etc., the contents of each chapter of the LDCRF can be created.



Chapter-1 Introduction
- 1.1 Background
- 1.2 Rationale
- 1.3 Objectives

Chapter-2 Step by Step Process of preparing the LDCRF
- 2.1 Steps for the Formulations of LDCRF
  - 2.1.1 Step 1 Coordination and Initial Preparation
  - 2.1.2 Step 2: Information Collection, Analysis and Profile Preparation
  - 2.1.3 Step 3: Develop an Integrated Plan
  - 2.1.4 Step 4: Approval, Mainstreaming and Implementation of The Framework
  - 2.1.5 Step 5: Monitoring and Evaluation

Chapter-3 Miscellaneous
- 3.1 Coordination and Facilitation
- 3.2 Information Management

Step 1 Coordination and Initial Preparation
- ANNEX 1 Subject List of Capacity Building Training for Information Collection

STEP 2. Information Collection, Analysis and Profile Preparation
- ANNEX 2 General Municipal Profile
- ANNEX 3 Understanding Local Disaster Risks

STEP 3. Develop an Integrated Plan
- ANNEX 4 Confirming DRR Plans by National and Other Authorities
- ANNEX 5 Identifying Residual Risks Considering Time-Series
- ANNEX 6 Listing All Necessary DRR Measures by Local Governments
- ANNEX 7 Prioritizing DRR Measures

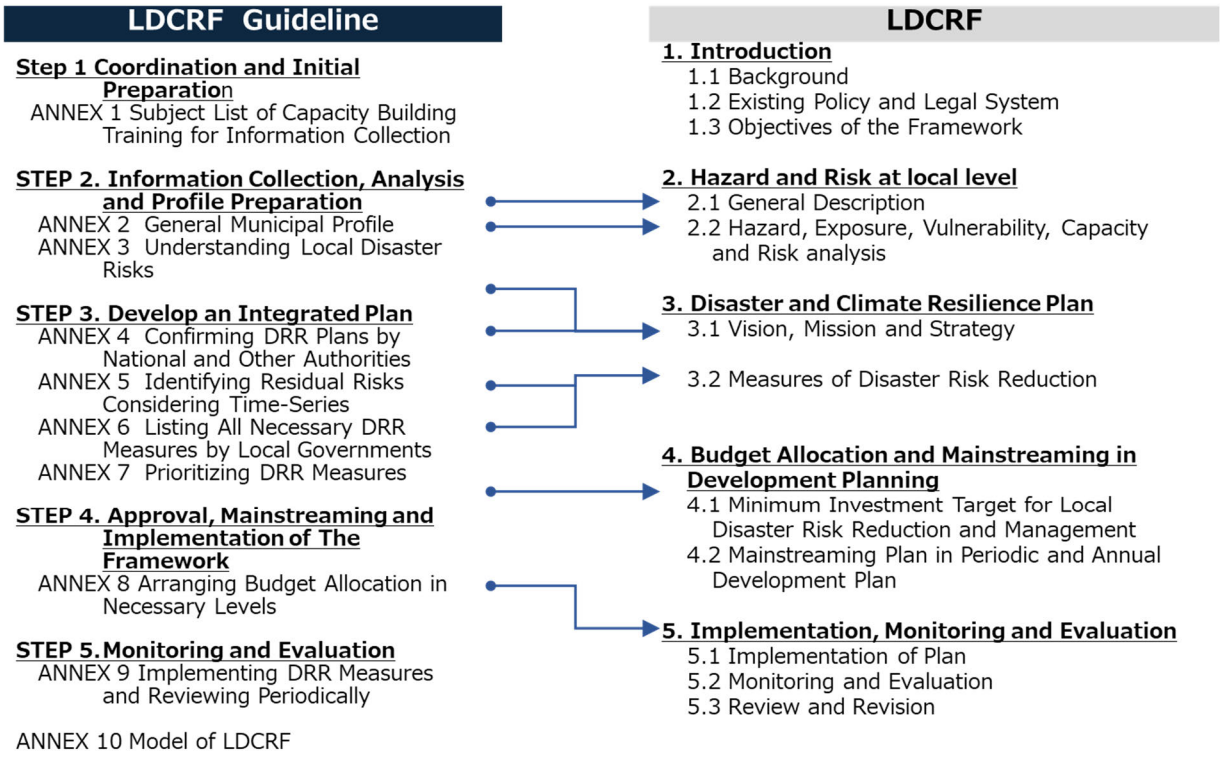
STEP 4. Approval, Mainstreaming and Implementation of The Framework
- ANNEX 8 Arranging Budget Allocation in Necessary Levels

STEP 5. Monitoring and Evaluation
- ANNEX 9 Implementing DRR Measures and Reviewing Periodically

ANNEX 10 Model of LDCRF

Source: JICA Expert Team

Figure 2.1-24 Structure of the Guideline for the Local Disaster and Climate Resilience Framework



Source: JICA Expert Team

Figure 2.1-25 Relationship between the LDCRF Guideline and Actual LDCRF

The format of the LDCRF guideline is summarized as follows and shown in Figure 2.1-26. The guidelines are structured in a 5W1H (What, Why, When, How, Who, Where) format to make each step and content easy to understand and proceed.

[Format of the guideline]

What: It provides general information about the STEP/methodology.

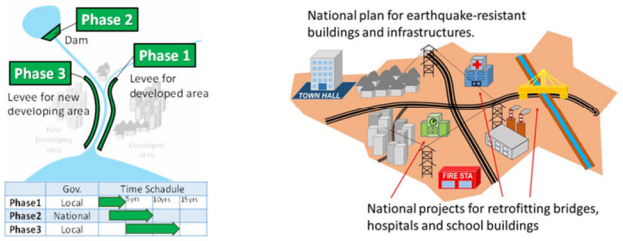
Why: It provides a rationale behind the selection of the particular STEP or methodology.

How: It unfolds a concrete methodology that is efficient and effective in achieving a desirable result.

When: It is about the timestamping of the STEP or methodology. It helps in scheduling the process, saving time and effort.

Who: It is about identifying the participants carrying out or causing them to carry out the process.

Where: It is used to pinpoint the location onsite or online where the step will be carried out, or data can be tracked and obtained..

What?	**Disaster risk reduction strategies and policies define "goals and objectives across different timescales and with concrete targets, indicators and time frames. In line with the Sendai Framework for Disaster Risk Reduction 2015-2030, these should be aimed at preventing the creation of disaster risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience."(2017, UNISDR).** **Therefore, this step aims to study and confirm the development plans and policies put forward by the federal and provincial governments as well as other authorities**
Why?	In order to maximize the effect of investment in Disaster Risk and Climate change, cooperation and collaboration amongst federal, provincial, and local governments are essential. Such alignment from top to bottom is especially important to secure budget so that actions in local level contributes to achieving resilience in the national and international level.
How?	1. Understand national goals related to DRRM and Climate Change Adaptation 2. Identify the stakeholders involved in DRRM and Climate Change Adaptation projects 3. Identify action plan, policies and the work plans, projects and related regulations that have been implemented or are being planned by the federal government and relevant agencies related to DRRM and Climate Change Adaptation in the target area. 4. Identify the objective of each project 5. Confirm the project plans and relevant laws and regulations with detailed information such as stakeholder, project type, area, duration. 6. Understand the impact of each project on risk reduction. [Output] Understanding relevant organizations and DRR plans -Understanding Relevant stakeholders -Contents (type, scale, method, schedule)of DRR plans and projects What projects are being implemented or planned by stakeholders? [Image] <Flood> <Earthquake>  <*Key Questions*> ☐ *Who are the concerned organizations for DRR?* ☐ *How do national and other authorities plan to reduce the identified risks in the area?* ☐ *Are there any relevant laws and regulations to reduce the risks?* ☐ *Are there any on-going and planned projects and measures to reduce the risks?* Source: JICA **Figure A 4 1 Output Image of ANNEX4**
When?	After understanding Local Disaster and Climate Risk
Who?	Environment & DRR Department, trained staff, consultants/ supporting staff from province
Where?	Please refer to Table A 4 1 and necessary plans/documents of relevant stakeholder.

Source: JICA Expert Team

Figure 2.1-26 Format of the Guideline for the Local Disaster and Climate Resilience Framework (LDCRF)

Activity 3-3 Enhance the capacity of C/Ps regarding LDCRF formulation

Activity 3-3-1 Identify the capacities and gaps between the current and ideal capacity for the facilitation of LDCRP/DPRP formulation

According to Activity 1-1, the NDRRMA and the JICA Expert Team identified the capacities and gaps between current and ideal capacity, including the facilitation of the formulation of LDCRF. Since the human resources of the NDRRMA are still insufficient, the NDRRMA and the JICA Expert Team identified the necessity of assistance from MoFAGA, especially for facilitating the formulation of LDCRF, and agreed to conduct the Training of Trainers (ToT) for not only the NDRRMA but also MoFAGA.

Activity 3-3-2 Consider the contents of workshops to formulate/revise the DRR part of LDCRP/DPRP in Activity 3-4

The contents of the workshops for the LLs to be implemented in Activity 3-4 were examined together with the C/Ps based on the guidelines for LDCRF formulated in Activity 3-2.

NDRRMA and the JICA Expert Team drafted the contents of workshops to formulate the LDCRF in Activity 3-4 as follows and also developed the training materials (presentation materials) for each annex based on the LDCRF guideline, adding the exercise parts. Originally, five workshops were planned to be held; however, due to the delay in printing approval of the LDCRF guideline, the number of workshops was changed to three by combining several steps according to the LDCRF guideline.

Table 2.1-32 Schedule and Contents of the Workshops in Activity 3-4

Schedule, Expected participants			Contents
1	Jan, 2025	Mayor + 2 personnel in charge of DRR and Planning	• What is DRR and investing in DRR？The necessity of DRR and investing in it • Overview of the SFDRR • Outline of the Project, priority projects for DRR to be implemented in the KV, and the cooperation of stakeholders
		2 personnel in charge of DRR and Planning	• [Annex 2] Understanding the municipal profile, regional characteristics • [Annex 3] Understanding local disaster risks：Creation of the seismic and flood risk maps • Presentation of the results of Annex 2 – 3
2	Mar. 2025	2 personnel in charge of DRR and Planning	• Review of Annex 2 – 3 • [Annex 4] Confirming DRR plans by national and other authorities • Confirmation of the contents of the DRR National Strategic Plan of Action • [Annex 5] Identifying residual risks considering time-series • Presentation of the results of Annex 4 – 5
		2 personnel in charge of DRR and Planning	• [Annex 6] Listing all necessary DRR measures by local governments • [Annex 7] Prioritizing DRR measures • Presentation of the results of Annex 6 – 7
3	Apr. 2025	Mayor + 2 personnel in charge of DRR and Planning	• [Annex 8] Arranging budget allocation at the necessary levels • [Annex 9] Implementing DRR measures and periodic review • Presentation of overall results and recommendations

Source: JICA Expert Team

Activity 3-3-3 Conduct the Training of Trainers (ToT) for Activity 3-4

Technology transfer and capacity development were implemented through the conduct of Training of Trainers (ToT) using the same workshop process to be implemented in Activity 3-4. The JICA Expert Team acted as the facilitator, and the C/Ps were the participants in this activity, so that the C/Ps were trained to be effective facilitators in the actual workshops suggested in Activity 3-4.

Prior to the ToT, several trainings for C/Ps were conducted. During task force meetings for discussion of the LDCRF guideline as described in Activity 3-2-4, for April-September 2023, the JICA Expert Team explained the details of the guideline and step-by-step procedures to the NDRRMA and the MoFAGA, who will be trainers for Activity 3-4, so that they can understand the contents and importance of the

LDCRF guideline. In addition, in the second counterpart training, which was held in August to September 2023, the JICA Expert Team developed the training materials and conducted a simple trial for the formulation of LDCRF in the form of practical training. Specifically, the trainees, including NDRRMA and MoFAGA, were divided into two groups (Godawari municipality group and Mahalaxmi municipality group), and the training was conducted following the steps shown in the LDCRF guideline in case of an earthquake as the target disaster. A series of steps was carried out, including creating a municipal profile, identifying hazard/risk areas, and selecting priority projects based on risk. Also, in the third counterpart training, which was held in February 2024, the training was conducted following the same procedures.

[Training of Trainers (ToT)]

Then, the NDRRMA and the JICA Expert Team held the three-day "Training of Trainers (ToT) on Formulation of Local Disaster and Climate Resilience Framework (LDCRF)" from March 17 to 19, 2025. The JICA Expert Team members acted as the trainer/facilitator and conducted the training. The following government officials participated in the ToT training. In addition to NDRRMA and MoFAGA, the officials from each province participated in the ToT to ensure that future nationwide dissemination of LDCRF will be effective.

- NDRRMA 8
- MoFAGA 3
- MoFE 2
- Provincial Governments 7 (1 person from each province except Lumbini province)
- Local Levels 7 (1 person from a municipality of each province)

The JICA Expert Team explained the content of each step according to the LDCRF guideline and facilitated the exercises of each content so that the participants could understand how to explain the LDCRF guideline and how to facilitate the preparation of the LDCRF effectively. The explanation was given referring not only to the presentation materials but also to the actual sections of the guidelines. In the exercise, Local Levels in the Kathmandu Valley were used as case examples, and participants were encouraged to proceed through each step to gain a concrete understanding of the contents of the LDCRF. Ample time was also set aside for questions and answers to resolve any doubts that may have arisen.

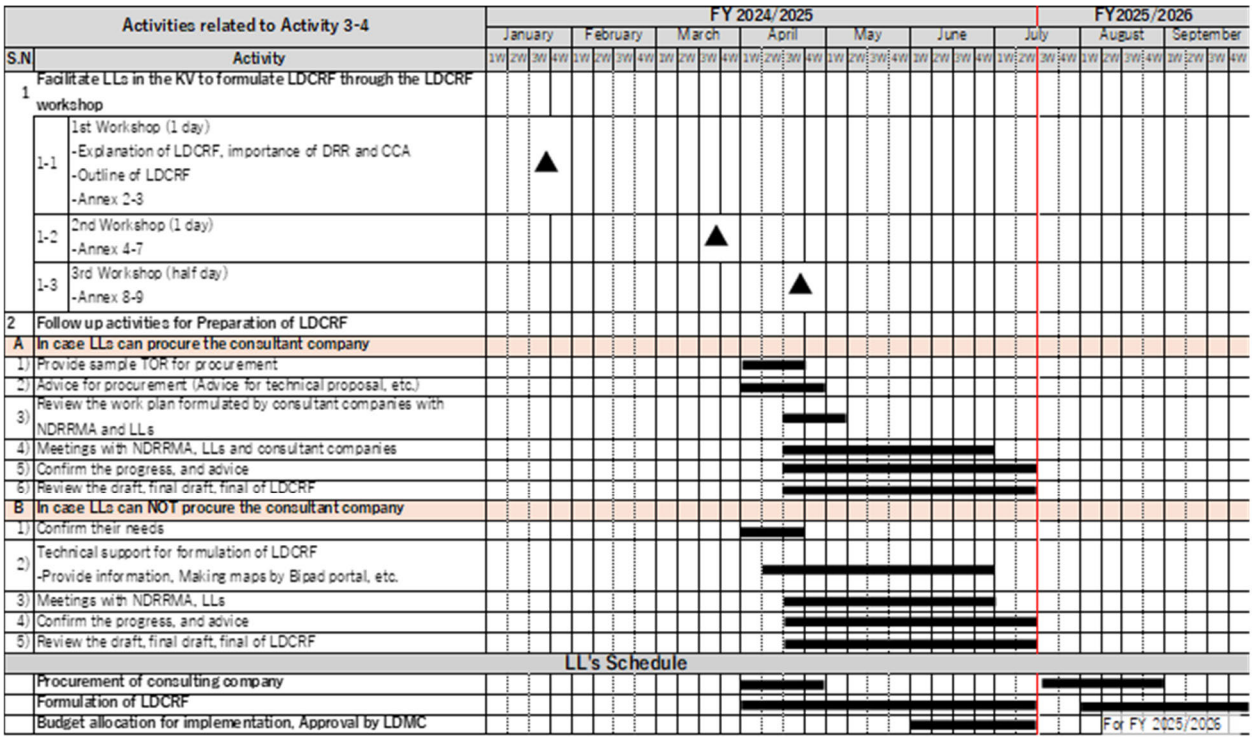
Activity 3-4 Facilitate LLs in the KV to formulate LDCRF (selection of priority projects for DRR and countermeasures for residual risks) through the LDCRF workshops and consultation with the concerned stakeholders

Activity 3-4-1 Prepare the coordination for workshops with LLs and concerned stakeholders

The JICA Expert Team and the NDRRMA have prepared a detailed schedule for holding workshops to formulate the LDCRF, as well as the coordination and follow-up activities, as follows.

Considering the capacity and ownership of LLs, the JICA Expert Team and the NDRRMA have requested LLs in KV to secure the budget for the formulation of LDCRF to procure the consultancy services. Thus, the following schedule has been prepared and divided into two cases, whether the LLs can procure the consultancy services.

Table 2.1-33 Detail Facilitation/Coordination Activities for Formulation of LDCRF



Source: JICA Expert Team

Activity 3-4-2 Conduct the workshops to formulate/revise the DRR part of LDCRP/DPRP

Three workshops were conducted to proceed step by step according to the LDCRF guideline as shown in below.

(1) First workshop on January 17, 2025

The first workshop was held on January 17, 2025. The workshop brought together mayors, deputy mayors, and officials from local governments in the Kathmandu Valley, representatives from federal ministries and departments, donor and partner agencies, and various stakeholders, accounting for 93 participants. Most participants commended NDRRMA's efforts in creating integrated guidelines for preparing LDCRF at the local level. They also emphasized the critical role of local governments in ensuring its effective implementation.

In the afternoon session, the exercises were conducted for the DRR focal person and the person in charge of the planning section of the local governments to develop the LDCRF following its guideline. As shown in Activity 3-2, the LDCRF guideline consists of five steps and ten annexes. In the first workshop, Steps 1 and 2, especially Annex 3: Understanding local disaster risks, were explained and practiced.

[Contents of the first workshop]

- Step 1: Coordination and Initial Preparation
- Step 2: Information Collection, Analysis, and Profile Preparation
  - [Annex 2] Understanding the municipal profile, regional characteristics
  - [Annex 3] Understanding local disaster risks： Confirmation of target hazards and risks
  - Presentation of the results of Annex 2 –3

(2) Second workshop on March 16, 2025

The second workshop was held on March 16, 2025. The DRR focal person and the person in charge of the planning section of the local governments of 15 local levels, out of 18 in KV, participated in the workshop. In the workshop, the exercises were conducted for Step 3 of the LDCRF guideline, which is the main part of the LDCRF for finally prioritizing DRR measures as follows.

[Contents of the second workshop]

- Step 3: Develop an Integrated Plan
  - Annex 4: Confirming DRR plans by national and other authorities
  - Annex 5: Identifying residual risks considering time-series
  - Annex 6: Listing necessary DRR measures by local governments
  - Annex 7: Prioritizing DRR measures

(3) Third workshop on April 20, 2025

The third (final) workshop was held on April 20, 2025. Participants came from 16 of the 18 municipalities (from three municipalities, mayors, or deputy mayors participated in, and four Chief Administrative Officers participated in), and the following contents of the LDCRF were explained and practiced.

[Contents of the third workshop]

- STEP 4. Approval, Mainstreaming and Implementation of the Framework
  - ANNEX 8: Arranging Budget Allocation in Necessary Levels
- STEP 5. Monitoring and Evaluation
  - ANNEX 9: Implementing DRR Measures and Reviewing Periodically

A rough budget was considered for the priority measures for disaster risk reduction selected in the second workshop (considered based on the implementation status of DRR-NSPoA under Output 1 and the high-priority DRR project list under Output 2). In addition, Changunarayan Municipality gave an overview of the municipal disaster risk reduction and management projects, and Godawari Municipality introduced a case study on using Disaster Management Funds for DRR purposes, sharing an opportunity for other municipalities to learn from each other.

Activity 3-4-3 Support and follow-up the formulation and implementation of LDCRP/DPRP and DRR measures at LLs

Several LLs have already allocated the budget for FY 2024/25 for the formulation of LDCRF to procure consultancy services. To support and follow up the formulation of the LDCRF, the NDRRMA and the

JICA Expert Team drafted the sample Terms of Reference (TOR) and Expressions of Interest (EOI) for procurement of the consultancy services, and have provided them to the concerned LLs.

In addition, for the LLs who have not allocated the budget, currently, following technical support as follow-up activities has been conducted by the NDRRMA and the JICA Expert Team, so that LLs can formulate the LDCRF by themselves.

- Review and confirm disaster history based on the BIPAD portal
- Review and confirm the status of hazard and risk analysis results based on related surveys and plans such as JICA-ERAKV and Risk Sensitive Land Use Plan (RSLUP)
- Review and confirm the un-implemented activities based on the results of DRR-NSPoA monitoring (Output 1)
- Review and confirm the status of the list of high-priority and priority DRR projects (Output 2)

The lessons learned from the supporting activities of formulating LDCRF can be summarized into three main areas: Leadership and Engagement of Mayors/Deputy Mayors, Hazard/Risk assessment, Incentive mechanism for implementation of the LDCRF.

- Leadership and Engagement of Mayors/Deputy Mayors
  Securing political commitment is critical. The active involvement of mayors and deputy mayors strongly influences the prioritization, endorsement, and budget allocation for disaster risk reduction (DRR) activities based on the LDCRF. Mayors' forums and workshops provide effective opportunities to share good practices of LDCRF formulation and implementation, raise awareness, and foster commitment to resilience-building investments.

- Necessity of Hazard/Risk assessment for effective LDCRF
  Reliable hazard and risk information is essential for formulating an effective LDCRF that addresses DRR in a comprehensive manner. In the Kathmandu Valley Project, the results of JICA's ERAKV were utilized for earthquake risk. For LDCRF formulation, ward offices and community participation have enhanced ownership by collecting past disaster experiences, hazard mapping and risk assessment. However, for nationwide dissemination of the LDCRF, technical support from NDRRMA for hazard and risk assessments is vital. Priority should be given to implementing Rapid Visual Screening (RVS) and hazard/risk assessments in major cities outside the Kathmandu Valley.

- Incentive mechanism for implementation of the LDCRF
  Adequate financial resources are indispensable for promoting LDCRF implementation. In the Project, as shown in Activity 3-5, local Disaster Management Funds (DMF) were promoted for DRR purposes. However, beyond the DMF, multiple budgetary options should be considered for implementing DRR and climate change adaptation measures. Furthermore, incentive mechanisms should be developed, particularly through increasing financial resources. Linking LDCRF formulation to local evaluation systems (e.g., LISA) and incentives can create stronger motivation for LLs to actively engage in LDCRF preparation.

Activity 3-5 Facilitate LLs in the KV to formulate/revise their operation guidelines for the Disaster Management Fund for the implementation of priority DRR projects

Activity 3-5-1 Survey the current progress of formulation and utilization conditions of operation guidelines for the Disaster Management Fund of LLs in the KV

The Disaster Management (DM) Fund is stipulated in the DRRM Act, and the local governments in the KV have established their respective DM Funds by making contributions from property taxes, etc. The MoFAGA has formulated a model of the DM Fund Operation Guidelines to be followed by each local government.

In order to understand the current situation and issues on the Disaster Management Fund (DMF) in Nepal, the existing institutional framework was reviewed from the national level to the local level. In addition to the national framework, regulations and plans related to DRR, such as the Disaster Risk Reduction and Management Act, the operation guideline for the DMF, and the annual financial report, in the 18 LLs in the Kathmandu Valley were gathered and reviewed by the JICA Expert Team. The main institutional conditions of the DMF are summarized as follows.

Disaster Risk Reduction and Management Act, 2017

Clause 23 prescribes that a DMF at each province and local level for disaster management shall be set up, although there is no detailed description.

Disaster Risk Reduction National Strategic Plan of Action 2018-2030, 2018

In the "Chapter 5: Priority Area 2: Strengthening Disaster Risk Governance at Federal, Provincial and Local Levels", as a strategic activity, the establishment of "special fund and monitoring mechanism for retrofitting of the existing risky public services, means of livelihood and physical infrastructure" is described. Besides, the preparation of "regulations and standard operating procedures for emergency fund and food bank at the provincial and local level" is shown as a strategic activity.

In the "Chapter 6: Priority Area 3: Promoting Comprehensive Risk-Informed Private and Public Investment in Disaster Risk Reduction and Resilience", making "a provision to allocate a minimum of 5% of annual budget by all sectoral agencies for disaster risk reduction" is proposed as a short term strategic activity. The responsible agencies for this activity are the Ministry of Finance and the National Planning Commission, while supporting agencies are concerned ministries of the Nepal Government, and the provincial and local governments.

Model of Operation Guideline for Rural/Municipality Disaster Management Fund, 2018/2075, MoFAGA

This model provides the local bodies with the basic content of the Rural Municipality/ Municipality DMF Operation Guideline. Once the municipality writes down the name fields, an operation guideline would be formulated. As per the model, the objective of the Rural Municipality/Municipality DMF is established to collect and mobilize necessary resources, cash,

and kind assistance at the local level, "to carry out disaster risk reduction and management works for the disasters or possible incidents of disasters in the local level". Clause 7 prescribes more detailed work for which the Fund can be used. Those details include not only the emergency response activities during/after the disasters but also disaster management works such as "to purchase a device for Disaster Early Warning System, develop the system and operate the system".

It is stipulated that the Fund shall work in the following areas: "(a) to provide immediate search, rescue, and relief service to the disaster-affected people at local level, (b) to organize resources to tackle disaster immediately at the local level. (c) to facilitate disaster risk reduction, preparedness, counteraction, and recovery works". The Rural/Municipal Disaster Management Committee decides to spend and use the budget from the Fund.

Activity 3-5-2 Review the issues and points for improvement of the guidelines and the implementation of DRR projects

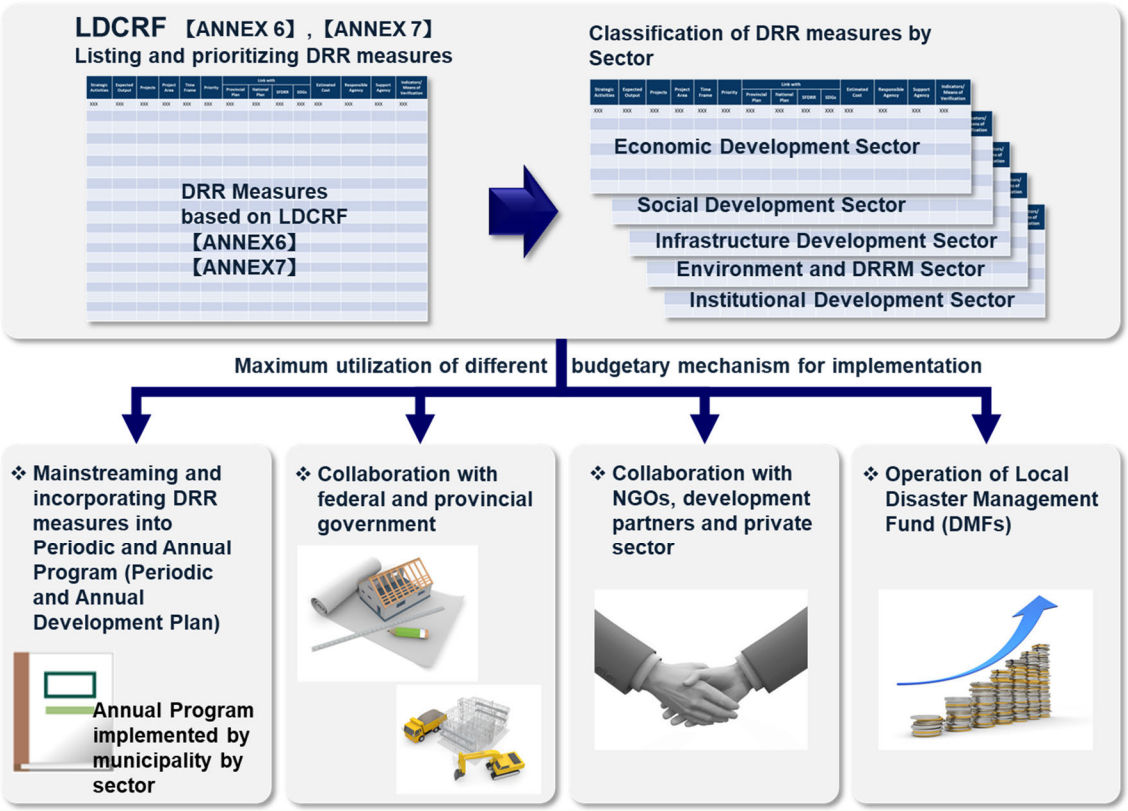
The issues and points for improvement of the guidelines and implementation of DRR projects were summarized as follows, based on the above review of the situation of DMF in Nepal.

Although it is suggested that 5% of the total annual budget should be allocated to the DRR activities by all sectoral agencies as a strategic policy in the National Policy for DRR, the legal basis has not been developed to ensure this standard. On the one hand, the establishment and operation of the DMF at the different levels of the government are prescribed by the DRRM Act and relevant regulations and policies. However, the standards for accumulating the money for the DMF are not shown on those legal bases. Therefore, the budget allocation for the DMF depends on the judgement of each local government.

The Models for the Municipal DRRM Act and DMF Operation Guideline were developed by MoFAGA at the municipal level. However, while 16 LLs in the Kathmandu Valley set out the Municipal DRRM Act, most 6 LLs have not developed the DMF Operation Guideline (As of March 2021 (at the time of review)). Meanwhile, according to the annual expenses of 18 LLs in the Kathmandu Valley from 2018 to 2020, the investment for DRR seems to be insufficient since there are many municipalities that allocate less than 1% of their total budget for DRR activities.

To sum up, the budget securing mechanism for continuously making a resilient society from the central level to the local level should be enhanced in Nepal. As the appropriate standards and operation guidelines were not developed for the DMF at the municipality level, it seems to be an urgent issue for each municipality to pursue a practical framework for the DMF operation.

Based on the above review, to improve the implementation of DRR projects, it was discussed with NDRRMA that not only the DMF, but also several options for a budget mechanism for implementing disaster risk reduction and climate change adaptation measures are required. Under the development of the LDCRF guideline, the following options were considered with discussion of NDRRMA, and then those options were incorporated into the LDCRF guideline.



Source: JICA Expert Team

Figure 2.1-27 Budget Mechanism for Implementing Disaster Risk Reduction and Climate Change Adaptation Measures.

In addition, while conducting project activities, the NDRRMA has prepared the National Disaster Management Fund Operation Procedure (DMFOP, 2079), and also, the JICA Expert Team has visited MoFAGA many times to promote the DRR activities by DMF. Thus, the MoFAGA revised the Local DM Fund operation procedure in December 2022, so that municipalities should utilize 70% of the DM Fund for Disaster Risk Reduction and 30% for the emergency response, search and rescue, and relief works. This revision was integrated into the LDCRF guideline.

Activity 3-5-3 Prepare the policies and methods to formulate/revise their operation guidelines for the Disaster Management Fund for the implementation of DRR projects

Table 2.1-34 shows the status of the DM Fund for each municipality. The average ratio of DM Fund in the total budget for the local levels is 0.35% in FY 2024/2025 (Nepal FY 2081/2082). However, since the situation of DM Fund operation is different for each municipality, the calculation of DM Fund rate and the percentage from DM Fund to DRR are not substantial for considering DRR investment. It is more important to increase the number of municipalities that will be able to utilize the Local DM Funds for DRR purposes.

MoFAGA has circulated a letter to all LLs to revise the Local DM Fund operation procedure in December 2022, so that municipalities should utilize 70% of the DM Fund for Disaster Risk Reduction and 30% for the emergency response, search and rescue, and relief works. The JICA Expert Team and

the NDRRMA visited all LLs in KV to promote the DM Fund to utilize DRR purposes, and this revision was incorporated into the LDCRF guideline.

Table 2.1-34 Current Situation of DMF in LLs

Municipality	Baseline				FY2024/25		
	Total Budget	Budget for DMF	Rate of DMF	Note	Total Budget	Budget for DMF	Rate of DMF
	(NPR: thousands)	(NPR: thousands)	(%)	(Fiscal Year)	(NPR: thousands)	(NPR: thousands)	(%)
Changunarayan	1,906,484	-	-	FY2021/22	2,123,094	30,000	1.41%
Budanilkantha	1,400,835	59,000	4.21	FY2019/20	3,250,000	20,000	0.62%
Chandragiri	1,738,498	N/A	-	FY2019/20	2,813,500	4500	0.16%
Dakshinkali	526,952	N/A	-	FY2019/20	834,800	2500	0.30%
Gokarneshwar	1,870,506	2,500	0.13	FY2019/20	2,011,721	0	0.00%
Kageshwari Manohara	1,037,595	5,000	0.48	FY2018/19	2,780,000	2,000	0.07%
Kathmandu Metropolitan	16,427,326	30,000	0.18	FY2020/21	25,706,325	10,000	0.04%
Kirtipur	1,191,445	1,000	0.08	FY2018/19	1,266,120	0	0.00%
Nagarjun	1,620,065	N/A	-	FY2019/20	2,525,000	0	0.00%
Shankharapur	919,204	N/A	-	FY2019/20	1,262,309	9000	0.71%
Tarakeshwar	1,385,348	N/A	-	FY2019/20	2,525,888	0	0.00%
Tokha	1,460,985	N/A	-	FY2020/21	1,700,000	4700	0.28%
Lalitpur Metropolitan	5,314,357	5,000	0.09	FY2019/20	7,468,392	8,700	0.12%
Godawari	1,686,522	N/A	-	FY2019/20	2,431,514	20000	0.82%
Mahalaxmi	1,256,254	N/A	-	FY2020/21	2,115,006	10000	0.47%
Bhaktapur	1,932,000	4,463	0.23%	FY2017/18	2,664,310	2,500	0.09%
Madhyapur Thimi	1,080,000	100	0.01	FY2018/19	1,690,914	5725	0.34%
Suryabinayak	1,480,000	N/A	-	FY2020/21	2,240,000	20000	0.89%
Average			**0.65**				**0.35%**

Source: Annual budget report of each municipality, edited by the JICA Expert Team

As a result, according to the information collected for the Local Disaster Management Fund Expenditure Details from all 18 LLs in the KV, as of FY 2022/23 (See Table 2.1-35), at least seven LLs (≒ 40%) have disbursed funds for DRR activities from the Local Disaster Management Fund. To increase the number of LLs, while holding the workshops for municipalities in Activity 3-4 and in Activity 3-5, the promotion above, as well as the mutual sharing of experiences, were implemented to revise their own Local DM Fund operation guideline to be utilized for DRR.

Table 2.1-35 Current Situation of DMF Operation

SN	Municipality	DM Fund FY 2079/80	DRR Expensees		Rescue, Relief and Recovery		Others		Remaining		Remarks
			Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
1	Budhanilkantha	105,697,346.01	15,421,112.00	14.59			2,783,196.60	2.63	87,493,037.41	82.78	
2	Chandragiri	5,000,000.00							5,000,000.00	100.00	Details NA
3	Dakshinkali	10,000,000.00	1,370,630.00	13.71	679,961.50	6.80			7,949,408.50	79.49	
4	Gokarneshwor	40,227,924.00	39,084,134.00	97.16			986,000.00	2.45	157,790.00	0.39	
5	Kageshwori Manohara										Details NA
6	Kathmandu Metropolitan City	102,171,959.40					1,000,000.00	0.98	101,171,959.40	99.02	
7	Kirtipur	11,948,500.00	842,226.00	7.05	2,317,004.54	19.39			8,789,269.46	73.56	
8	Nagarjun	1,722,951.17	750,040.44	43.53	972,910.73	56.47					
9	Shankharapur	10,000,000.00							10,000,000.00	100.00	Details NA
10	Tarakeshwor	4,000,000.00							4,000,000.00	100.00	Details NA
11	Tokha	6,000,000.00	2,384,434.00	39.74	3,139,717.00	52.33	123,340.00	2.06	352,509.00	5.88	
12	Lalitpur Metropolitan City	16,342,258.00					8,578,753.00	52.49	7,763,505.00	47.51	
13	Godawari	5,200,000.00			769,097.00	14.79	31,200.00	0.60	4,399,703.00	84.61	
14	Mahalaxmi	20,684,183.48							20,684,183.48	100.00	Details NA
15	Bhaktapur	6,327,691.53			90,000.00	1.42			6,237,691.53	98.58	
16	Changunarayan	10,000,000.00					10,000.00	0.10	9,990,000.00	99.90	
17	Madhyapur Thimi	1,415,808.33					236,498.00	16.70	1,179,310.33	83.30	
18	Suryabinayak	5,000,000.00	1,100,000.00	22.00	98,790.00	1.98	460,000.00	9.20	3,341,210.00	66.82	
	Total	**361,738,621.92**	**60,952,576.44**	**18.93**	**8,067,480.77**	**2.51**	**14,208,987.60**	**4.41**	**278,509,577.11**	**76.99**	

Source: Summarized by the JICA Expert Team based on Details of Expenses made from DM Fund

4) Other Activities

In January 2020, the COVID-19 outbreak began in Wuhan, China. Japan was among the first countries where COVID-19 infection was detected outside of China. On March 24, 2020, the Government of Nepal implemented a nationwide lockdown. Consequently, Japanese experts were unable to travel to Nepal.

To minimize the impact, JICA and the JICA Expert Team agreed to conduct project activities remotely from Japan starting in June 2020, instead of traveling to Nepal. With JICA's approval, the JICA Expert Team operated from Japan, reassigning on-site tasks to domestic assignments. Specifically, they performed additional and supportive work from Japan to ensure project activities could proceed effectively and practically once travel to Nepal resumed. The following outlines the additional and supporting work carried out in Japan.

(1) Chronological Analysis on Covid-19 in Nepal

This analysis comprehensively examined events relevant to COVID-19 and the Nepalese government's responses, presented in chronological order, with particular emphasis on social protection. It also identified potential areas where the NDRRMA could contribute. A significant number of papers, articles, and newspapers were reviewed, and data and information were meticulously compiled into a timeline table. This information was rigorously categorized into 'Major Events in the World,' 'Major Events in Nepal,' and 'Government Responses.' Additionally, a video interview with a Nepalese individual was conducted to gather further insights.

(2) Review of Disaster Risk Reduction and Management in Nepal and Selected Asian Countries

The primary objective of this study is to meticulously review disaster risk reduction and management systems in Nepal and other Asian countries, specifically Indonesia, Japan, the Philippines, and Sri Lanka. This will be achieved through an extensive literature review. These nations were carefully selected due

to their significant experiences with large-scale natural disasters, including earthquakes, tsunamis, floods, and typhoons. The diverse lessons and practical experiences in disaster risk reduction and management gleaned from these countries offer invaluable insights that can be effectively adapted and applied in Nepal, particularly to benefit the newly established NDRRMA.

This study involved a literature review primarily focused on legislations, key policies, budgeting and funding, planning documents, organizational structures, and decision-making processes related to disaster risk reduction and management in Nepal and other Asian countries. The aim of this study was to provide a comparative overview of disaster risk reduction and management systems. In Nepal, the NDRRMA is mandated by the DRRM Act to formulate the overall framework of disaster risk reduction and management, encompassing all stages: pre-disaster, emergency response, and post-disaster periods. This study specifically sought to identify valuable lessons and experiences that could be introduced to Nepal, particularly for the institutional development of NDRRMA.

(3) Approach for Future Update on Risk Assessment

In the JICA-ERAKV project, the risk assessment used a GIS-based methodology, which necessitated extensive knowledge of both risk assessment principles and GIS processing. To facilitate easy future updates of risk assessments by the NDRRMA or other interested organizations in Nepal, a user-friendly Excel-based risk assessment application was developed. This application requires only a few inputs, such as location and structure type, automatically calculating the damage probability for a single building or the number of damage buildings for an aggregate of structures.

This user manual provides basic information on seismic risk assessment methodology and explains how to conduct seismic risk assessment for buildings using an Excel template named “Building Risk Assessment.xlsm.” It also includes seismic risk assessment for bridges, with an Excel template named “Bridge Risk Assessment.xlsm.” The templates offer a user-friendly risk assessment tool that enables staff from the National Disaster Risk Reduction and Management Authority (NDRRMA), the Ministry of Home Affairs (MoHA), the Department of Urban Development and Building Construction (DUDBC within the Ministry of Urban Development (MoUD)), and the Department of Road (DoR within the Ministry of Physical Infrastructure and Transport (MoPIT)), as well as other interested individuals, to perform seismic risk assessments for updated or new building and bridge inventories in Kathmandu Valley (KV).

(4) Record of Flood Damage and Rainfall Analysis

Kathmandu Valley is surrounded by four mountain ranges, making it highly susceptible to inundation damage from floods. The causes of inundation can be classified into riverine floods and inland floods. Generally, riverine floods are influenced by the basin’s average rainfall, while inland floods depend on the rainfall within the floodplain. Although a simple hazard assessment does not include a large-scale hydrological investigation, understanding the relationship between rainfall distribution and corresponding inundation areas would aid in developing effective flood control planning.

Information regarding inundated areas from past floods was gathered through existing flood analysis reports or online sources. Satellite rainfall, provided as special mesh data, is valuable for understanding

rainfall distribution, irrespective of the accuracy or placement of ground-based rainfall gauging stations. Flood characteristics can be understood by comparing heavy rainfall meshes with the inundation area in the same river basin. However, this depends on the relationship between mesh size and the size of the target river basin.

Additionally, a statistical analysis was conducted to evaluate past floods, using both satellite rainfall data and historical flood records. Furthermore, a basic flood hazard map was developed for each cause of flood. The inundation areas for this simplified hazard assessment were estimated by revising previous reports and studies with DTM data. These results were then used to inform the key strategies for flood risk reduction within project activity 2-2.

(5) Review of Laws and Regulations on Disaster Management Fund in Nepal and Institutional Framework on DRR Budget of Local Governments in Foreign Countries

Kathmandu Metropolitan Municipality, for instance, has established the Disaster Management Fund (DMF), collecting cash from the fixed property taxes paid by its citizens. On the other hand, there appear to be issues with the appropriate operation of the Fund. To understand the current situation and challenges concerning the DMF in Nepal, the existing institutional framework was reviewed, from the national to the local level.

In addition to the national framework, regulations, and plans related to DRR, this study gathered and reviewed documents from 18 Local Levels (LLs) in the Kathmandu Valley. These documents included the Disaster Management Act, operation guidelines for the Disaster Management Fund (DMF), and annual financial reports. Subsequently, problems and issues identified from this review of the DMF situation in Nepal were examined to ensure its effective utilization for disaster risk reduction in Project Activity 3-5.

(6) Review of Slope Disaster Hazard Assessment

To support the formulation of disaster risk reduction and management plans at the local government level, which is the target of Output 3, the plan's contents must encompass not only earthquakes and floods but also all types of disasters relevant to each local government's concerns. According to the preliminary survey results of this project, slope failure disasters occur frequently in the Kathmandu Valley.

In this connection, slope disaster hazards were reviewed and compiled by referring to existing analysis results, particularly focusing on JICA's past projects: the ERAKV and Earthquake Rehabilitation and Reconstruction Project (RRNE). Based on these review results, potential countermeasures were preliminarily examined to enhance the effectiveness and practicality of the project activities.

(7) Data Collection for Infectious Diseases Countermeasures of Local Governments in Japan

Based on the infection situation of COVID-19 (Coronavirus Disease 2019), information about Japan's recent infectious disease countermeasures and emergency responses was collected and summarized. The aim was to provide a reference for countermeasures adopted by local governments in the Kathmandu Valley.

It was summarized to include specific laws, guidelines for infectious disease countermeasures to be implemented by local governments, including a list of stockpiles, evacuation shelter operations, public health dissemination activities, and more. Based on the results of the data collection and survey, the references for the countermeasures recommended to be implemented by local governments in Nepal were summarized.

(8) Recommendations to NDRRMA on COVID-19 Response

The JICA Expert Team analyzed the early stages of the COVID pandemic in Nepal through a chronological analysis to observe how government authorities had implemented various measures. Through this analysis, we found that the Government of Nepal imposed lockdown measures, considering international pandemic experiences, even when the number of positive cases in the country was still low. Subsequently, based on this analysis, the JICA Expert Team compiled recommendations for the NDRRMA within their defined roles and functions.

(9) Resource Book: Gender Equality and Social Inclusion (GESI) in Disaster Risk Reduction and Management (DRRM)

The Resource Book on Gender Equality and Social Inclusion (GESI) in Disaster Risk Reduction and Management (DRRM) is a comprehensive reference document aimed at addressing the exclusion and discrimination faced by marginalized groups in DRR. It recognizes that disaster risks are gender-neutral but impact different groups differently. This initiative acknowledges the vulnerability of women, children, the elderly, persons with disabilities (PwDs), and other marginalized communities during crises and disasters.

The resource book intends to centralize scattered efforts and provide a structured approach to GESI in DRRM. Its primary objectives include compiling national and international commitments, showcasing NDRRMA's GESI efforts, and collecting, analyzing, and evaluating good practices. The resource book primarily targets government officials, NDRRMA staff, relevant ministries, municipalities, development partners, civil society, researchers, academicians, and students.

The resource book's methodology involves reviewing GESI commitments in DRRM, identifying contributors, requesting good practices, conducting meetings, selecting relevant cases, validating information, and finalizing the book. The approach ensures a well-rounded and informed compilation.

(10) Review of earthquake risk assessment results and selection of priority projects for bridges

The detailed survey and study were conducted not only to update the long and short lists for priority project formulation for bridges related to Output 2--aimed at improving the aseismic capability of candidate existing bridges against projected future large earthquakes in Kathmandu Valley--but also to provide direction for a future approach at the implementation stage, after the determination of priority projects, in order to secure essential and emergency transportation routes.

The detailed surveys include the design data collection, review of the JICA-ERAKV reports on aseismic capability assessment of the candidate bridges, site investigation of the selected candidate bridges, and research of nondestructive test for bridge structures to get the information of substructure data as

supplementing the design data and drawings, mainly re-bar arrangement and its cover depth.

Based on the survey results, the long and short lists for the candidate bridges for the project formulation were updated. A draft ToR was provided for the next-step study to select the final project bridges and their improvement method for improving their aseismic capability.

(11) Examination of the utilization of disaster risks and disaster risk reduction and management related information into the health sector in the Kathmandu Valley

Disaster risk reduction and management (DRRM) related data is one of the most crucial components for policy-making, planning, and implementing. It is not only important for DRRM activities but also for other sectors, such as health, education, and more. Particularly in the health sector, under the circumstances of the COVID-19 pandemic, in case of a large-scale disaster, victims are forced to evacuate. There is a high risk of spreading infection at the evacuation shelter.

Therefore, this study utilized the DRRM information of Kathmandu valley to examine the vulnerability of the health sector, aiming to contribute to the maximum use of policies in the health sector. As a result, the findings obtained through this examination are as follows.

a. Establishment of an information sharing system between NDRRMA and MoHP
b. Limitation of available data
c. Detailed flood hazard assessment considering flood from inland waters and climate change
d. Consideration of relocation and/or reconstruction of health facilities within a hazardous area
e. Designation of evacuation shelters considering hazards
f. Considering preparedness measures for effective response to disasters and preventing the spread of COVID-19

(12) Current Situation of Disaster Information Management System (DIMS) in Nepal

Disaster-related data and information are among the most crucial components for policymaking, planning, and implementing Disaster Risk Reduction and Management (DRRM) activities. The Government of Nepal has built a Disaster Information Management System (DIMS) named the Building Information Platform Against Disaster (BIPAD), which is an integrated and comprehensive disaster information management system. BIPAD was built at a time when disaster governance in Nepal was changing on account of the federal restructuring of the country.

However, disaster data and information are still scattered, insufficient, and not fully harmonized. On this backdrop, BIPAD is developed by pooling all credible digital and spatial data that are available within different government bodies (federal, provincial, local), non-governmental organizations, academic institutions, and research organizations on a single platform.

The details and current status of BIPAD, as the DIMS in Nepal, were summarized, and its applicability was examined.

(13) Case Studies for Mainstreaming Disaster Risk Reduction (DRR) in Japan

Disasters endanger human lives, deprive us of properties and assets accumulated in society, as well as the time and opportunities for development, and force governments to allocate large budgets for

response, relief, and recovery. Since disasters affect society as a whole, disaster risk reduction should be pursued not only as separate projects but also as a cross-sectoral issue that is integral to development in general.

The term "Mainstreaming Disaster Risk Reduction (DRR)" has been used since around 2000, when the United Nations Office for Disaster Risk Reduction (UNISDR) (current UNDRR) was established. In the United Nations, it has been used in the UN Secretary-General's reports on the progress of the International Strategy for Disaster Reduction (ISDR) since 2001, mentioned frequently since the 2nd UN World Conference on Disaster Reduction in 2005, and featured in the UN General Assembly's resolutions on ISDR since 2012.

In the context of sustainable socioeconomic development, reducing poverty, and other social problems, reducing damage from disasters is essential. The facilitation of post-disaster response also calls for mainstreaming disaster risk reduction, which promotes comprehensive measures that proactively incorporate disaster risk reduction in all phases of development.

JICA conducted the "Project Study on Mainstreaming Disaster Risk Reduction (DRR)" in 2013 and has collected cases of measures related to DRR mainstreaming in Japan. Based on JICA's Project Study, the cases applicable in Nepal were summarized and translated into English. The purpose of this translation is to create reference materials that can be utilized by all relevant sectors on the Nepalese side.

In addition, updated cases from Japan following JICA's Project Study were also collected and summarized. Each case is expected to help Nepalese government officials (federal. provincial and local) gain a concrete understanding of mainstreaming disaster risk reduction.

2.2 Achievements of the Project

2.2.1 Outputs and indicators (Target values and actual values achievement at completion)

1) Output 1

The following four objectively verifiable indicators are applied to evaluate the achievement of Output 1 based on the PDM.

1.1 The Institutional Development Plan (IDP) for the NDRRMA is developed

This indicator has been achieved.

The NDRRMA developed the IDP with support from the JICA Expert Team.

1.2 The Human Resource Development Plan (HRDP) for the NDRRMA is prepared

This indicator has been achieved.

The framework of the HRDP for the NDRRMA was prepared concurrently with the IDP. The HRDP is positioned as an appendix to the IDP.

1.3 The case examples of implementation of the IDP and the HRDP are identified

This indicator has been achieved.

The case examples for both the IDP and HRDP have been identified. Specifically, 81 out of 91 IDP actions have been initiated. For the HRDP, implementation has occurred across all 12 core and functional competencies and 10 out of 21 courses.

1.4 The monitoring and reporting system of the DRR National Strategic Plan of Action is endorsed and established among the NDRRMA, the concerned ministries and other stakeholders.

This indicator has been achieved.

The NDRRMA has defined the monitoring process for the DRR-NSPoA with the support of the JICA Expert Team. The annual progress monitoring report for FY2023/2024 was submitted to the 32nd Executive Committee on 28 May 2025, signifying the completion of the annual monitoring and reporting system.

1.5 All local levels in KV complete their DRR National Strategic Plan of Action (DRR-NSPoA) (2018-30) reporting up to FY 2024/25.

This indicator has not been achieved.

All 18 local levels in KV have completed their DRR-NSPoA reporting for the activities in FY2023/2024. The results were reported to the EC in May 2025.

The monitoring process for the activities in FY2024/2025 started in July 2025 and continues after the project. The results will be reported to the EC by February 2026.

2) Output 2

The following objectively verifiable indicator is applied to evaluate the achievement of Output 2 based on the PDM.

2.1 The high-priority DRR projects in the KV are identified.

This indicator has been achieved.

High-priority DRR projects for public buildings and bridges were identified with NDRRMA and the relevant ministries, and were approved by the 21st Executive Committee, chaired by the Home Minister, on April 15, 2024.

2.2 The NDRRMA prepares the annual facilitation schedule for coordinating meetings among the concerned ministries and other stakeholders to secure the budget for the high-priority DRR projects based on the annual budget application process.

This indicator has been achieved.

The NDRRMA and the JICA Expert Team prepared an annual facilitation schedule for coordination meetings among the concerned ministries and other stakeholders. The NDRRMA conducted a joint

meeting with MoUD and MoHP to discuss high-priority DRR projects on Mar 3, 2025. The NDRRMA organized donor meeting regarding high priority project on 19th June, 2025 and will continue to seek financial option of high priority projects. The NDRRMA and JICA Expert Team also shared the high priority project list with the 18 municipalities in the KV.

3) Output 3

The following three objectively verifiable indicators are applied to evaluate the achievement of Output 3 based on the PDM.

3.1 The Guidelines for formulation of LDCRF is approved.

This indicator has been achieved.

The Guideline for Formulation of the Local Disaster and Climate Resilience Framework (LDCRF) was developed with the aim of integrating the various plans and documents related to disaster management and climate change adaptation, such as LDRMP/LDCRP, DPRP, LAPA, etc. Finally, the Guideline of LDCRF has been approved officially by the 22nd Executive Committee Meeting on May 3, 2024.

3.2 9 of the LLs in the KV prepare LDCRF based on LDCRF Guideline

This indicator has been achieved.

As of the beginning of September 2025, the preparation status is summarized as follows. 10 LLs in the KV have prepared the LDCRF based on the LDCRF Guideline.

[Prepared]

- 5 LLs (Budhanilkantha, Nagarjun, Changunarayan, Chandragiri, Tarakeshwar) have completed the preparation of the LDCRF, 1 LL (Nagarjun) has prepared the LDCRF and under final confirmation with the allocated budget FY 2024/25 for the consultancy service.
- 4 LLs (Bhaktapur, Dakshinkali, Shankarapur, Kirtipur) have completed the preparation of the LDCRF with small amount of the budget FY 2024/25 and the technical support of the NDRRMA.

[Partially prepared]

- 1 LL (Suryabinayak) has finished the Hazard and Risk Mapping, as a part of the LDCRF.

[Allocate the budget for FY 2025/26]

- 7 LLs have not allocated the budget for FY 2024/2025. However, 5 LLs (Kathmandu Metropolitan, Lalitpur Metropolitan, Madhayapur Thimi, Kageshwori Manohara, Suryabinayak) out of 7 have allocated the budget for LDCRF formulation in FY 2025/2026.

3.3 (30)% of the LLs in the KV disburse for DRR activities from Local Disaster Management Fund.

This indicator has been achieved.

According to the information collected for the Local Disaster Management Fund Expenditure Details from all 18 LLs in the KV, as of baseline survey for FY 2017/18-2019/20, there were no LLs disbursed

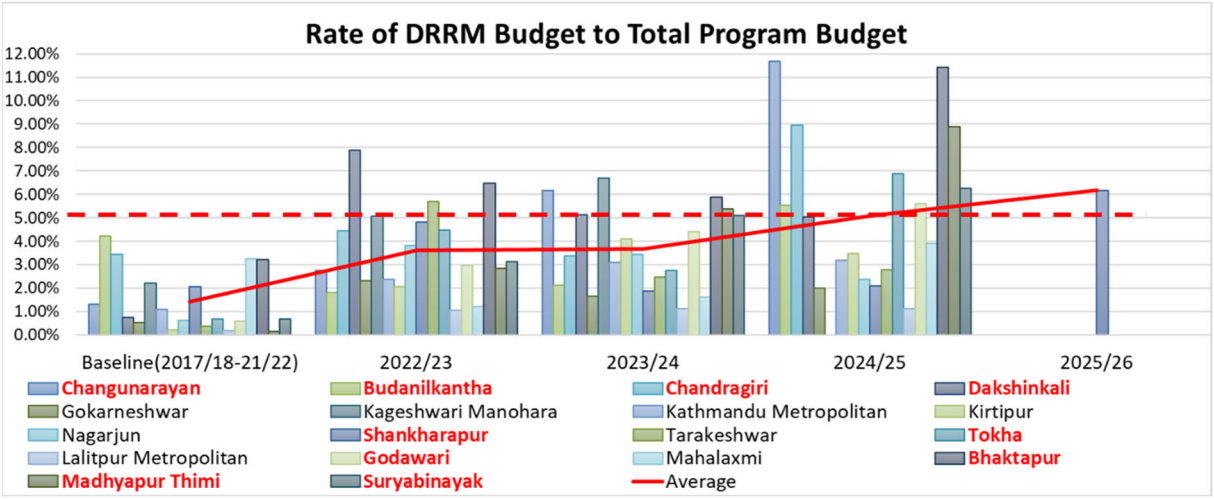
for DRR activities from the Local Disaster Management Fund (DMF). Then, as of FY 2022/23,, at least 7 LLs (≒ 40%) have disbursed funds for DRR activities from the Local DMF.

To increase the number of LLs, while holding the workshops for municipalities in Activity 3-4 and in Activity 3-5, the promotion above, as well as the mutual sharing of experiences, was implemented to utilize the Local DM Fund for DRR.

3.4 9 of the LLs in the KV allocate at least (5)% of the total program budget for DRRM.

This indicator has been achieved.

According to the survey of annual budget details of LLs, 10 LLs have allocated more than 5 % of the total program budget for DRRM in FY 2024/2025 (Changunarayan, Budanilkantha, Chandragiri, Dakshinkali, Tokha, Godawari, Bhaktapur, Madhyapur Thimi, Suryabinayak) or FY 2025/2026 (Shankharapur)[3] as shown in Figure 2.2-1. Many municipalities have increased the DRRM budget from the baseline survey for FY 2017/18-2019/20. The promotion activities for DRR investment, including holding the workshops for municipalities in Activity 3-4, the following-up activities were conducted to promote the formulation of LDCRF and budget allocation for DRR within the project.



Source: Summarized by the JICA Expert Team based on Budget Details of each LL

Figure 2.2-1 Rate of DRRM Budget to Total Program Budget

4) Project Purpose and indicators (Target values and actual values achievement at completion)

The project purpose, "Disaster Risk Governance for promoting investment in DRR is strengthened", has been achieved by the attainment of the following two project indicators.

[3] As of the beginning of September 2025, Shankarapur Municipality is the only one that has been collected detail information on budget FY 2025/2026.

4-1 The NDRRMA coordinates a process to include the high-priority DRR projects identified in the Project in the Annual Work Plan of the Concerned ministries and LLs

This indicator has been achieved

The high priority DRR projects for public buildings and bridges were identified with NDRRMA and the concerned ministries, and were approved by the 21st Executive Committee, chaired by the Home Minister, on April 15th, 2024. The NDRRMA has asked ministries to include high priority DRR projects in their Annual Work Plan & Budget by letter. Even though the ministries confirmed the necessity of the projects, the projects are not included in the Budget.

Following the approval of the high priority DRR projects by the Executive Committee, the NDRRMA issued letters again in May 2024 to the concerned ministries, including MoEST, MoHP, MoPIT, MoUD and MoFAGA, to request the arrangement of budget for the implementation, and the NDRRMA with JICA expert team visited the concerned ministries to promote the incorporation of the DRR project in the budget for the coming fiscal year. However, since the budget application for the fiscal year 2024/2025 was closed by the end of April, it was too late at the timing when the budget application by the ministry had been already completed. Accordingly, the JICA expert team started with an action plan for facilitating the incorporation of the DRR projects in next year's government budget. Also, the NDRRMA and the JICA Expert Team prepared an annual facilitation schedule for coordination meetings among the concerned ministries and other stakeholders. NDRRMA conducted a joint meeting with MOUD and MOHP regarding high priority DRR projects on March 3rd, 2025.

As a result of these coordination efforts, two high-priority bridges under the responsibility of the MoPIT have been incorporated in the annual development program / red book of FY2025/2026. Some of the high priority DRR projects were also planned to be implemented by the local governments by their own budget. Along with the coordination efforts by the NDRRMA and JICA Expert Team, 23 high priority DRR projects (9 educational buildings, 6 government buildings, 6 health facilities and 2 bridges) out of 57 projects have been incorporated in their annual plans of 8 LLs and MoPIT for budgeting. Out of 17, 2 projects have been already completed (one educational building and one government building), and 6 projects are under implementation (4 health facilities, one educational building and one government building).

4-2 The coordination mechanism among the concerned ministries and Bagmati Provincial Government, LLs in KV, the academia and other relevant stakeholders is internalized by the MoHA/NDRRMA

This indicator has been achieved.

The National Council, Executive Committee, Provincial and Local Disaster Management Committees are the main coordination and decision-making bodies among the central, provincial and local governments in the overall DRRM framework in Nepal. The ministers of major ministries (MoHA, MoUD, MoHP, MoFAGA) and secretaries of all ministries are members of the Executive Committee.

In accordance with the above governance structure defined in the DRRM Act,the NDRRMA has internalized the practical coordination mechanism by establishing regular processes for facilitating the promotion of DRR. The monitoring and reporting mechanism of DRR-NSPoA has been established considering the three-tires of government. The annual facilitation schedule for coordinating with relevant ministries and agencies to finance high priority DRR projects has been set. The LDCRF guideline has been developed and familiarized to the local levels in KV.

The NDRRMA has established and enhanced its processes for the following stakeholders.

(1) Concerned ministries:

The NDRRMA have coordinated with MoHP, MoEST, MoPIT and, MoUD/DUDBC to confirm the high priority DRR projects and asked them to include them in their Annual Work Plan & Budget. The NDRRMA also brought the high priority DRR projects to the Executive Committee on April 15th, 2024, for approval. Following the approval of the high priority DRR projects, the NDRRMA has coordinated with concerned ministries to promote the incorporation of the DRR project in the budget. The annual facilitation schedule has been developed for regular and continuous coordination.

In terms of monitoring DRR activities, the monitoring and reporting mechanism of DRR-NSPoA has been established, considering the three-tiers of governments, reporting from the local levels up to the Executive Committee. The NDRRMA utilizes the focal person group for DRR representing every ministry and agency.

(2) Provincial governments:

Provincial chief secretaries are members of the National Council. Provincial governments are the integrated part of the monitoring and reporting mechanism of DRR-NSPoA.

The NDRRMA have discussed with the OPMCM and the Bagmati Provincial Government about the future coordination between the NDRRMA and the provincial government. In addition, the NDRRMA and the JICA Expert Team conducted the Training of Trainers (ToT) for the preparation of the LDCRF by inviting the officials from provincial governments for nationwide dissemination.

(3) LLs in KV:

For the coordination mechanism with the local governments, the NDRRMA have regularly communicated with all 18 LLs in the KV. The LDCRF guideline has been finalized as the tool of technical support and coordination by the NDRRMA. The NDRRMA intends to continue supporting the LLs, especially those outside of the KV, for the development of LDCRF.

(4) Academia and other relevant stakeholders:

National Platform of Disaster Risk Reduction (NPDRR) was established by the United Nation to promote sharing information and knowledge related to DRR. CE of NDRRMA is chairing the platform for various coordination and discussion including academia, NGO/INGO, private sector etc.

Within the framework of the NPDRR, the NDRRMA holds regular workshops, called BIPAD Sambad, to share DRR knowledge among academia and other relevant stakeholders. The NDRRMA also utilized technical resources in academia for damage assessment in the event of disasters.

2.3 History of PDM Modification

The modification of PDM was made in 4th JCC.

Objectively Verifiable Indicators

Before	Amended Version
Overall Goal 1. (X) Number of DRR investment projects for resilience are incorporated into the Annual Work Plans of the MoHA/NDRRMA and the concerned ministries.	**Overall Goal** 1. 50 number of DRR investment projects for resilience are incorporated into the Annual Work Plans of the MoHA/NDRRMA and/or the concerned ministries and/or LLs in the KV.
Project Purpose 1. (X) Number of the priority DRR projects in KV is led by the MoHA/NDRRMA. 2. The coordination mechanism among the concerned ministries, Provincial Government 3, LLs in KV, the academia, and other relevant stakeholders is internalized by the MoHA/NDRRMA.	**Project Purpose** 1. The NDRRMA coordinates a process to include the high-priority DRR projects identified in the Project in the Annual Work Plans of the concerned ministries and LLs 2. The coordination mechanism among the concerned ministries, Bagmati Provincial Government, LLs in KV, the academia, and other relevant stakeholders is internalized by the MoHA/NDRRMA.
Output 1 4. (X) number of coordination meetings among NDRRMA, the ministries concerned, and other stakeholders.	**Output 1** 4. The monitoring and reporting system of the DRR National Strategic Plan of Action is endorsed and established among the NDRRMA, the concerned ministries, and other stakeholders. 5. All local levels in KV complete their DRR-NSPoA (2018-30) reporting up to FY 2024/25
Output 2 1. High-priority DRR projects are identified and incorporated into the Annual Work Plans of the MoHA/NDRRMA and the concerned ministries.	**Output 2** 1. The high-priority DRR projects in the KV are identified. 2. The NDRRMA prepares the annual facilitation schedule for coordinating meetings among the concerned ministries and other stakeholders to secure the budget for the high-priority DRR projects based on the annual budget application process.
Output 3 1. The Guidelines for formulating LDCRP/DPRP are updated. 2. (X)% of the LLs in the KV disburse at least (Y)% for DRR activities from the Disaster Management Fund. 3. (X)% of the LLs in the KV allocate at least (Y)% of the total program budget for DRR.	**Output 3** 1. The Guideline for formulating LDCRF is approved. 2. 9 of the LLs in the KV prepare LDCRF based on the LDCRF guideline. 3. (30)% of the LLs in the KV disburse for DRR activities from the Local Disaster Management Fund. 4. 9 of the LLs in the KV allocate at least (5)% of the total program budget for DRRM.
Reason: We agreed on indicators that were undetermined.	

Activities

Before	Amended Version
Output 1	**Output 1**
1-4 Facilitate the Executive Committee to organize coordination meetings to share the progress of implementation and monitoring of the DRR National Strategic Plan of Action among concerned ministries and agencies	1-4 Organize coordination meetings to share the progress of implementation and monitoring of the DRR National Strategic Plan of Action among concerned ministries and agencies
1-5 Organize coordination meetings with the OPMCM, the MoHA and the MoFAGA and the NPC in progress of implementation and monitoring of the DRR National Strategic Plan of Action among NDRRMA on a regular basis	1-5 Organize coordination meetings with the OPMCM, the MoHA and the MoFAGA and the NPC in progress of implementation and monitoring of the DRR National Strategic Plan of Action for the provincial governments, districts and local levels among NDRRMA on a regular basis
1-7 Prepare to establish a coordination wing in the NDRRMA to share the findings of research related to disaster risks and DRR measures with the academia	1-7 Enhance the coordination mechanism to share the findings of research related to disaster risks and DRR measures with the concerned government agencies and the academia of NPDRR
Output 2	**Output 2**
2-7 Engage the MoF and the NPC to integrate high-priority DRR projects into the Annual Work Plan of MoHA/NDRRMA	*(Deleted)*
2-8 Facilitate consulting with concerned ministries to integrate high-priority DRR projects into the respective Annual Work Plans	2-7 Facilitate to consult with concerned ministries to integrate high-priority DRR projects into the respective Annual Work Plans
2-9 Facilitate preparing the proposals of high-priority projects to secure the budget from Development Partners and PPP in coordination with the concerned ministries	2-8 Facilitate preparing the proposals of high-priority projects to secure the budget from Development Partners and PPP in coordination with the concerned ministries
2-10 Facilitate preparing the procurement of high-priority projects in coordination with the ministries concerned	*(Deleted)*
Output 3	**Output 3**
3-2 Review and update the DRR of the Guidelines for formulation of LDCRP/DPRP	3-2 Review and develop the DRR of the Guidelines for formulation of LDCRF
3-3 Enhance the capacity of C/Ps regarding LDCRP/DPRP formulation	3-3 Enhance the capacity of C/Ps regarding LDCRF formulation
3-4 Facilitate LLs in the KV to formulate/revise the DRR (selection of priority projects for DRR and countermeasures for residual risks) of LDCRP/DPRP through the LDCRP/DPRP workshops and consultation with the concerned stakeholders	3-4 Facilitate LLs in the KV to formulate LDCRF (selection of priority projects for DRR and countermeasures for residual risks) through the LDCRF workshops and consultation with the concerned stakeholders
Reason: As for the Activity under output 1, to make the content of activities clearer. As for the original Activity 2-7, NDRRMA doesn't develop such an Annual Work Plan. As for the original Activity 2-10, it was confirmed that the procurement of high-priority projects can be carried out by the Nepalese government. As for the Activity under output 3, to change the name of document to match reality.	

2.4 Others

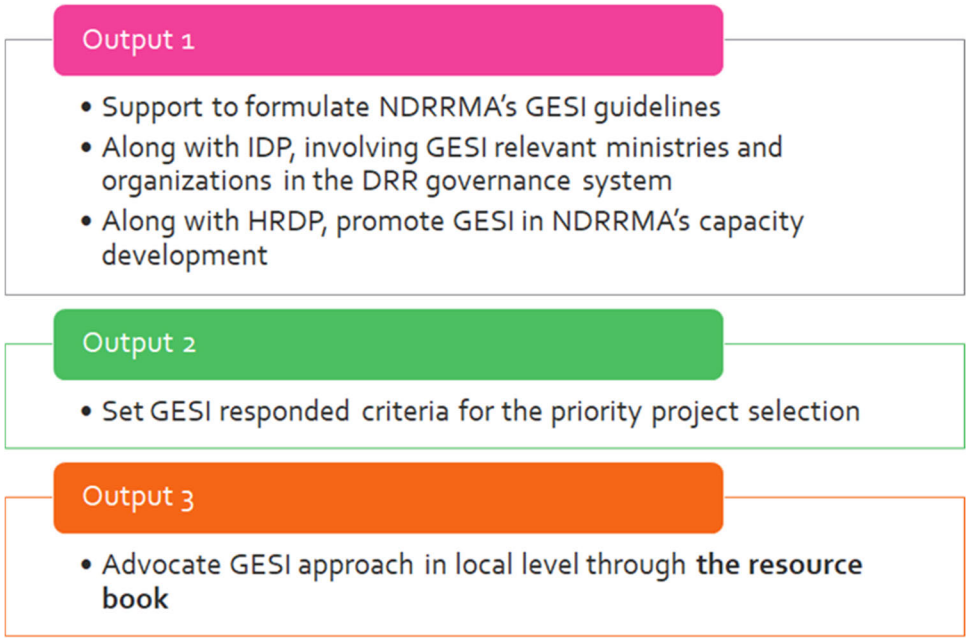
2.4.1 Results of Environmental and Social Considerations (if applicable)

Local-level DRR plan should address environmental and social considerations. The LDCRF Guideline developed in this project highlights the importance of environmental and social considerations in line with the relevant policies and plans, such as but not limited to:

- Collecting policies to understand the national policies and plans: Environmental Protection Act, National Environmental Policy, Climate Change Policy, etc.
- Data collection of exposure and vulnerability: Social conditions (all castes, women, children, senior citizens, Dalits, tribals, tribes, minorities, persons with disabilities, population of endangered communities, population density, age, etc.), Forest, Environment and Climate change conditions, Bio Diversity and Environmental Services, Environment impact on livelihoods, etc.
- Consider countermeasures for DRR and Climate Change Adaptation (CCA): land use for biological diversity and environmental services, etc.
- Criteria for the selection of priority DRR measures: social and environmental impact

2.4.2 Results of Considerations on Gender/ Peace Building / Poverty Reduction, Disability, Disease infection, Social System, Human Wellbeing, Human Rights, and Gender Equality (if applicable)

Nepal is one of the active countries to mainstream Gender Equality and Social Inclusion (GESI) in its policy and projects. Each government authority assigned a GESI focal point to exchange information and opinions about GESI at the federal level and promote GESI policy and projects in each organization. NDRRMA has a newly assigned GESI focal point, and the project had a series of discussions on how the Project could incorporate GESI ideas in each project output. It is summarized below.



Source: JICA Expert Team

Figure 2.4-1 Ideas of GESI Activities in Each Project Output

In addition, the project prepared a GESI Resource Book in DRMM and completed a draft. The main objective of the resource book is to collect and compile good practices so that anyone seeking to understand and implement Gender Equality and Social Inclusion in Disaster Risk Reduction has enough resources to follow and be inspired.

Primary users of the resource book are expected to be government officials, including staff of NDRRMA, relevant ministries, provinces, districts, and municipalities. Nevertheless, it will be equally helpful for development partners, civil society seeking project ideas that are GESI-sensitive, as well as researchers, academicians, and students.

Methodology used in the preparation of this document is explained step by step as enlisted below: The JICA expert team reviewed national and international commitments made in GESI and DRR; identification of case study contributors (all 18 municipalities of the Kathmandu Valley as well as INGO's and NGO's with significant contribution in GESI and DRR); requested identified contributors for good practices with formal letter of request from NDRRMA; carried out one on one meeting with the municipalities and partner organization; reviewed received cases; selected the most relevant cases; presented the selected cases in the resource book; validated the cases from the respective contributors and presented the cases in the Resource Book.

The Resource Book has been presented and submitted to NDRRMA.

Chapter 3 Results of Joint Review

3.1 Result of Review Based on DAC Evaluation Criteria

Results of the review based on the six DAC Evaluation Criteria (relevance, coherence, effectiveness, efficiency, impact, and sustainability) are rated in four stages (very high, high, moderately low, and low).

3.1.1 Relevance

The relevance of the Project is "very high" for the following reasons.

1) The Relevance from the perspectives of development policy and disaster reduction policy

In Nepal's Fifteenth Plan (2019/20–2023/24), disaster risk reduction and management (DRRM) were identified as a priority area. In the subsequent Sixteenth Plan (2024/25–2028/29), disaster risk reduction (DRR) was recognized as a critical area requiring structural transformation to achieve the plan's objectives, with a commitment to integrate DRR into all sectors of development. The strategies outlined include the construction of sustainable, safe, and resilient towns and urban infrastructure, as well as the mobilization of various funding sources.

Following the 2015 Gorkha earthquake, the GoN enacted and implemented the Disaster Risk Reduction and Management Act, 2074, in October 2017. In 2018, it formulated the National Policy for Disaster Risk Reduction and the Disaster Risk Reduction National Strategic Plan of Action (DRR-NSPoA)2018-2030. In 2019, it enacted the Disaster Risk Reduction and Management Regulations 2076, thereby establishing a new implementation framework for disaster management. The National Disaster Risk Reduction Management Authority (NDRRMA), the target organization of this project, is the national disaster management authority established under the Disaster Risk Reduction and Management Act. It was established in December 2019, and its Chief Executive was appointed. This project aims to strengthen Nepal's disaster risk reduction and management capabilities and support the newly established NDRRMA aligns with the GoN's policies.

2) Needs of Nepalese society and beneficiaries

Nepal is one of the world's most earthquake-prone countries and is also vulnerable to frequent disasters, including monsoon floods and landslides. The Kathmandu Valley, which is home to the capital city, accounts for 10% of the total population and more than one-third of the country's economy. However, the region is regularly affected by major earthquakes. This project, aimed at strengthening disaster resilience in the Kathmandu Valley through enhanced disaster risk reduction, aligns with the needs of Nepalese society.

3) Relevance of the project plan and its logic

This project aims to strengthen the administrative capacity of disaster risk reduction and management to promote investment projects that contribute to disaster risk reduction by enhancing the DRR capacity of the NDRRMA (Output 1), establishing an investment mechanism for DRR priority projects in the Kathmandu Valley (Output 2), and promoting the mainstreaming of DRR in local governments in the

Kathmandu Valley (Output 3). There is no gap in the flow; the project design and logic were therefore appropriate.

3.1.2 Coherence

The coherence of the Project is "very high" for the following reasons.

1) Consistency with the development cooperation policy of the Government of Japan and JICA

Coherence with the aid policy of the Japanese government According to *Japan's Country Development Cooperation Policy for Nepal,* prepared in 2021, the overarching aim for the cooperation is "Balanced and sustainable economic growth, aiming at Nepal's graduation from the LDC status" and three specific aims have been set, namely, "economic growth and poverty reduction," "disaster prevention and climate change measures," and "enhancement of governance and democratization". This Project falls under the second specific aim, "disaster prevention and climate change measures," and specifically addresses one of the development issues under this particular aim, which is "post-earthquake reconstruction and disaster risk reduction."

Additionally, JICA has established a "Global Agenda" to address thematic issues, and in the disaster risk reduction sector, "Disaster Risk Reduction through Pre-disaster Investment and Build Back Better" was set. This Project is positioned in it.

2) Synergies with other JICA projects

Following the Gorkha earthquake in April 2015, JICA dispatched a survey team to Nepal the next day to conduct information-gathering surveys to assess needs for recovery and reconstruction assistance and identify specific cases requiring urgent response. In May of the same year, JICA co-hosted a seminar in Kathmandu with the GoN to share past experiences of Japan in disaster recovery and provide detailed examples of future reconstruction planning and specific reconstruction projects. In this context, based on the "SFDRR for Disaster Risk Reduction 2015-2030" adopted at the Third United Nations World Conference on Disaster Risk Reduction in March 2015 and the "Sendai Disaster Risk Reduction Cooperation Initiative" announced by the Japanese government, the necessity of the "Build Back Better" concept is an opportunity to build a society that is more resilient to disasters than before the disaster, during this period when emergency response immediately after the earthquake is followed by recovery and reconstruction. Based on the above, the "The Project on Rehabilitation and Recovery from Nepal Earthquake: RRNE" was implemented. This project focused on preparing and managing priority rehabilitation projects, as well as providing technical support for the swift implementation of loan projects by JICA. The "Kathmandu Valley Resilience Plan" was also developed under this project and is being utilized in the RRNE project.

JICA's technical cooperation project, The Project for Assessment of Earthquake Disaster Risk for the Kathmandu Valley in Nepal: ERAKV (2015–2018), conducted earthquake hazard assessments and earthquake risk assessments in the Kathmandu Valley. Based on the assessment results, the project supported the creation of a roadmap for disaster risk reduction measures and the development of local disaster risk reduction plans for the three target cities (Lalitpur, Bhaktapur, and Budhanilkantha). The

earthquake disaster risk assessment confirmed that public facilities, bridges, and major roads are at risk of significant damage. For the resilience of the Kathmandu Valley, it became clear that it is necessary to invest government funds in advance to reduce risks and enhance critical infrastructure, such as public facilities and major roads (pre-disaster investment in DRR), and to establish mechanisms for this purpose. It led to the launch of this project. The scientific assessment results from ERAKV have raised the GoN's awareness of disaster prevention. They are being reflected and utilized in relevant policies (local disaster risk reduction plans, public infrastructure seismic resistance plans, etc.) under the new organization, NDRRMA. NDRRMA publishes the results of ERAKV's earthquake risk assessments on the BIPAD portal. This information is accessible to the general public and is used by local governments to develop LDCRFs and to educate citizens.

Additionally, the "Project for Promotion of Nepal National Building Code Compliance for Safer Building Construction (NBCC)," with DUDBC of MoUD as the C/P, aims to improve the mechanism for compliance with building codes for earthquake-resistant construction in the Kathmandu Valley by improving the procedure for applying for construction permits to municipalities. While REKV primarily focuses on strengthening government buildings, NBCC targets the strengthening of housing, and the two projects are working in synergy to enhance the overall resilience of the Kathmandu Valley.

3) Cooperation and coordination with other donors

This project has shared information with the Development Partners (DPs) like the Asian Development Bank (ADB), the United Nations Office for Disaster Risk Reduction (UNDRR), the United Nations Development Programme (UNDP), the World Bank, the United States Agency for International Development (USAID), and the Swiss Agency for Development and Cooperation (SDC), among others, and has invited them to coordination meetings and workshops. It has enabled appropriate division of responsibilities and fields for support, with each organization playing complementary roles and working together to advance efforts toward strengthening governance for disaster risk reduction in Nepal.

4) Consistency with the global framework

Following the 2015 Gorkha earthquake, in accordance with the SFDRR for Disaster Risk Reduction (DRR) 2015-2030, which was adopted at the Third UN World Conference in Sendai, the Government of Nepal (GoN) has been implementing the "Build Back Better (BBB)" concept in rehabilitation and reconstruction and further expanding its efforts toward DRR investments to better prepare for future disasters. Based on this framework and concept, the DRRM Act was endorsed, and the NDRRMA was established as the central organization for DRRM in Nepal.

Moreover, there are several SDGs that have direct links to Disaster Risk Reduction, such as Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable, Goal 13: Take urgent action to combat climate change and its impacts, and Goal 1: End poverty in all its forms everywhere.

3.1.3 Effectiveness

The effectiveness of the Project is "high" for the following reasons.

As explained in Chapter 2: Results of the Project, indicators of the Project's outputs have already been

achieved through project activities all three outputs were produced: Output 1: The institutional capacity for DRR is developed in the NDRRMA, Output 2: The fundamental mechanism for investing High-priority DRR projects in the KV is developed, and Output 3: DRR mainstreaming is promoted in the Local Levels (LLs) in the KV.

Regarding Project Purpose, Indicator 1 shows that the NDRRMA consulted with relevant ministries and LLs to identify High-priority DRR projects and coordinated the reconstruction of the identified projects. Some of the identified high-priority projects have already been reconstructed. As for Indicator 2, the coordination mechanism for investment in DRR has been institutionalized by the MoHA/NDRRMA. Specifically, an annual facilitation schedule has been established, which the EC approves DRR high priority projects identified by the NDRRMA and JICA Expert Team. Furthermore, by establishing a monitoring report on the DRR-NSPoA, a coordination mechanism led by MoHA/NDRRMA was internalized, involving federal, provincial, and local governments, academia, and other relevant organizations.

Based on the above, it is possible to consider that the Project Purpose has been achieved, and the three outputs set are evaluated as having effectively contributed to the achievement of the project purpose.

3.1.4 Impact

The impact of the Project is “high” for the following reasons.

Although it is too early to evaluate the impact due to insufficient evidence, the prospect of achieving the overall goal and the ripple effects that were observed indicate that the impact is likely to be “high” in the future.

1) Direct impact (prospect to achieve the overall goal)

The overall goal is most likely achievable when the project outcomes continue to be implemented and disseminated by the NDRRMA. The NDRRMA and JICA Expert Team prepared the annual facilitation schedule for promoting DRR projects among concerned ministries and LLs and facilitated the implementation of the high-priority DRR projects for earthquakes. As of today, out of 57 high-priority DRR projects, two bridges under the responsibility of the federal ministry (MoPIT), as well as 21 projects under the responsibility of the local levels, have been incorporated into their annual plans. JICA Expert Team prepared a priority project list for further implementation of the DRR projects to the NDRRMA for the earthquake in KV.

2) Ripple effect

The LDCRF Guidelines, which the REKV supported in preparing, have been disseminated outside Kathmandu Valley by NDRRMA. In the three districts, for example, Dang, Banke, and Bardiya in Lumbini Province, the Guidelines were already distributed when the high-level officers of NDRRMA visited for the situation analysis regarding DRR. Some municipalities create LDCRFs outside the Kathmandu Valley based on the LDCRF Guidelines (e.g., Barekot Rural Municipality in Jajarkot District of Karnali Province). The NDRRMA plans to disseminate the guidelines to all municipalities in Nepal. In the coming fiscal year, it intends to hold workshops in several municipalities to assist them in creating

LDCRFs in accordance with the Guidelines. Thus, there is potential for LDCRFs to be created at many local levels outside the Kathmandu Valley.

Through participation in training programs in Japan on DRR and the workshops for LDCRF, mayors in the Kathmandu Valley have understood the necessity of preparing LDCRFs. In Changunarayan Municipality, a disaster risk reduction newsletter for citizens is being published. By incorporating information and lessons learned from training programs in Japan and other sources into the newsletter, the city is creating opportunities to raise awareness among its citizens. The mayor of Chandragiri Municipality plans to compile a book summarizing the content of the training programs in Japan. Similar initiatives are expected to spread to other municipalities.

3) Long-term effect

During the COVID-19 outbreak in January 2020, Japanese experts created the Resource Book: Gender Equality and Social Inclusion (GESI) in Disaster Risk Reduction and Management to promote consideration of GESI in DRR among NDRRMA officers. Based on this Resource Book, NDRRMA developed "the Strategic Action Plan for Gender Equality, Disability, and Social Inclusion (GEDSI) in Disaster Risk Reduction and Management 2024," which the EC approved in May 2024. Subsequently, the Strategic Action Plan was also produced in a braille document for visually impaired individuals, further advancing inclusive DRR efforts.

3.1.5 Efficiency

The efficiency of the Project is "high" for the following reasons.

The inputs were appropriately provided from both the Nepalese and Japanese sides as planned, and all human and financial resources were fully utilized to conduct the planned activities. The activities necessary to produce output were planned, and overall, input was made in just the right quantity and quality.

The project duration was initially planned to be 47 months (from March 2020) but was extended to 61 months due to the impacts of COVID-19, and subsequently to 69 months due to the suspension of dispatching Japanese experts to Nepal. However, the total working days of JICA Expert Teams in Nepal didn't change from the initial plan of the R/D. While the Government of Nepal (GoN) was restricting entry into the country due to COVID-19 and JICA instructed the JICA Expert Team to deny and postpone any travel of experts from Japan to Nepal, JICA and the JICA Expert Team agreed to perform the project activities from June 2020 remotely from Japan instead of traveling to Nepal. The JICA Expert Team utilized online meetings to present the Project Inception Report to the NDRRMA, ensuring a smooth project start and conducting as many online activities as possible. Furthermore, to address this situation, additional resources were allocated to the JICA project team in Japan to collect and organize useful information on disaster risk reduction (DRR) and compile it into several documents, which were subsequently submitted to the NDRRMA (see Annex 2 List of Products). Although the overall project cost increased slightly from the initial budget, all project activities have been completed, and the outputs and Project Purpose have been achieved through the above inputs. Considering the difficulties caused by the COVID-19 pandemic, efficiency will likely be very high.

Regarding Output 3, the LDCRF guideline was approved by the 22nd Executive Committee Meeting in May 2024, however, printing approval of the guideline was delayed and finally approved in January 2025. By consolidating the planned number of workshops to formulate/revise the LDCRF, the schedule delay was recovered.

The 4th JCC meeting has been postponed for approximately a year, so the project period has been extended by eight more months. Additionally, it was extended for another two months due to the riots that erupted in mid-September 2025. Despite these constraints, the REKV responded flexibly by prioritizing its activities, and it could complete the planned activities during the project period.

3.1.6 Sustainability

The sustainability of the Project is "high" for the following reasons.

1) Policy and institutional aspects

As verified through the Relevance evaluation, awareness of the necessity of DRR has increased in Nepal, and it is identified as a priority area in the Sixteenth Plan (2024/25–2028/29). The implementation period for the current DRR-NSPoA is extended until 2030. Given the Nepalese government's commitment to the SFDRR for Disaster Risk Reduction and the Paris Agreement, including its Nationally Determined Contribution (NDC), government policies to promote DRR will continue even after the project.

2) Organizational aspect

NDRRMA, the central agency for DRRM, is under the Ministry of Home Affairs (MoHA). The MoHA oversees the police organization and is responsible for disaster management, primarily focusing on emergency response to disasters. Since its establishment, the Risk Reduction and Work Operation Division, which is responsible for DRR, has been operational, and the Division Director, a Joint Secretary, serves as the Project Director of the REKV.

The project established a monitoring and reporting system for DRR-NSPoA at NDRRMA. Following one trial and two practices, the Annual Monitoring Report of DRR-NSPoA was reported to the EC in May 2025. Through monitoring reports, cooperation with central government agencies, provinces, and municipalities was strengthened, and the coordination capacity of NDRRMA was enhanced. (Output 1: Indicator 4)

The follow-up to the IDP action plan prepared in REKV Output 1 was implemented in March 2025. As a result, of the 91 activities in the 21 areas specified in the Disaster Management Act, 81 activities were progressing in some way. Among these, significant strides have been made in Area 2; *Expected Outcome: Information on the Multi-Hazard Risk Assessment Maps will be shared by the NDRRMA with the concerned ministries, departments, and agencies for their incorporation into sectoral development plans and projects.* Area 11: *Suggestions and guidance to further improve private sector and community involvement in DRR will be provided to provincial and local governments, and their implementation will be monitored by NDRRMA.* BIPAD Portal has been developed and integrated as a centralized disaster information system, including hazard maps, real-time data, and an early warning system.

While significant progress has been made in certain areas of action and intervention, eight actions in six areas are marked as having only small progress. Still, no specific systems or plans have been implemented. In the cases of Area 7: Building Standards, Area 14: Social Protection, and Areas 19 and 20: Disaster Insurance, the limited human resources available at NDRRMA and the limited efforts to collaborate with related professional organizations may cause impediments to their activities. As for Areas 15 and 16, budgetary constraints for developing and maintaining the organization and the museum are considered the primary cause.

Frequent personnel changes at NDRRMA are a cause for concern. The PD and Coordinators for each Outcome of the Project have been changed several times due to personnel changes. NDRRMA is a relatively new organization, gradually establishing its structure for DRR.

3) Technical aspect

To date, three divisions have been established within the NDRRMA, and technical specialists in DRR, such as hydrologists, geologists, meteorologists, and civil engineers, have been assigned to these divisions. However, as this is a newly established government agency, personnel are currently being transferred from other ministries and agencies. In Nepal, there is a limited number of technical specialists in various ministries and agencies, and the NDRRMA carries out its duties with limited personnel.

Despite this situation, all 12 core and functional competencies defined in the HRDP (Output 1) are supported by relevant training courses, and NDRRMA officers have already completed some of these courses.

Regarding competencies related to DRR expertise, NDRRMA has developed an Introductory Course on Disaster Risk Reduction and Management (DRRM). This course is designed for e-learning, making it more accessible. Comprising four modules and 15 sessions, it enhances competencies in inter-organizational coordination, DRR policy planning, technical input for disaster-resilient structures, financial support strategies for prevention, and preparedness. This course is recommended for NDRRMA personnel, federal and local government officials, and NGOs, contributing to the overall improvement of Nepal's disaster management capabilities. Regarding the capacity development of local governments, the NDRRMA conducted training for 1,162 officials from 392 local governments across 49 districts. The participating officials included disaster section heads, DRR focal persons, IT and technical personnel, engineers, and security personnel. However, NDRRMA acknowledges that efforts in scientific research and education related to disaster management are still insufficient. However, the NDRRMA-led BIPAD system strengthens disaster response capabilities and research collaboration with universities and NGOs.

NDRRMA's participation in international conferences is also proceeding. At the eighth session of the Global Platform for Disaster Risk Reduction (GP2025) of UNDRR, held in Geneva in June 2025, the Secretary of the MoHA, the Chief Executive (CE) of NDRRMA, and several staff members attended and reported on Nepal's DRR efforts. At the Asia Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR) held in Manila in October 2024, NDRRMA prepared and presented a position paper on Nepal's DRR efforts.

NDRRMA has formulated progressive legal and regulatory frameworks. It includes many laws, regulations, guidelines, and policies designed to prevent, prepare for, respond to, and recover from disasters such as the Post Disaster Recovery Framework, the Local Disaster Climate Resilience Framework, the GEDSI strategy, Disaster management communication strategies, etc.

4) Financial aspect

Nepal's economy experienced a temporary decline in its economic growth rate due to the impact of COVID-19. Still, it has recovered steadily and has continued to grow robustly in recent years. According to data released by the Nepal Rastra Bank (NRB), Nepal's real GDP growth rate (flash estimate) for the 2023/2024 Fiscal Year (July 16, 2023, to July 15, 2024) was 3.87% year-on-year, nearly double the 1.95% growth rate of the previous fiscal Year (FY). According to the ADB's economic outlook released in September 2024, Nepal's economy is expected to maintain steady growth in the 2024/2025 FY, with a projected growth rate of 4.9% compared to the previous year. The government budget has also increased, with the 2024/25 FY budget totaling 1.8603 trillion Rupees, representing a 6.2% expansion compared to the initial budget of the previous fiscal year.

The DRR-NSPoA 2018-2030 outlines strategic activities under Priority Area 3: Promoting private and public investment based on comprehensive risk information to enhance resilience for disaster risk reduction. Specifically, under Strategic Activity 6.2: Promoting public investment for disaster risk reduction, it establishes provisions requiring all sectoral agencies to allocate at least 5% of their annual budgets to disaster risk reduction and encourages budget allocation for DRR) Additionally, the Disaster Risk Reduction and Management Act mandates the establishment of Disaster Management Funds (DMFs) at the central, province, district, and municipal levels. In the 18 municipalities targeted by the REKV, all municipalities have established DMFs and commenced operations.

According to the Red Book of the Ministry of Finance, the independent regular budget for the NDRRMA, including operational and capital budgets, has been allocated under the MoHA’s budget item (budget code 31400103) since the establishment year of FY 2020/21. Since then, its government budgets have been increasing (Table 3.1-1). For FY 2025/26 (Nepalese FY 2082/83), 221 million Nepalese Rupees are planned to be allocated. The NDRRMA budget includes funds for Relief and Rehabilitation, and significant variations in expenditure amounts have been observed yearly. On the other hand, funds from overseas Development Partners such as the World Bank (WB) and the Asian Development Bank (ADB) were directly incorporated into the NDRRMA's regular budget until the FY 2022/23, but have not been included since the FY 2023/24. Apart from the NDRRMA's budget, there is a Relief and Rehabilitation Program (budget code 3140001) under the MoHA. Although the amount is not significant, a certain budget allocation is made annually.

Table 3.1-1 Budget of NDRRMA

(Unit: Lakh NPR)

FY / Heading (Budget codes)	2077/78 (2020/21)	2078/79 (2021/22)	2079/80 (2022/23)	2080/81 (2023/24)	2081/82 (2024/25)	2082/83 (2025/26)
NDDRMA (31400103)						
Budget of NDRRMA (Total)	5.00	23,684.00	16,177.00	1,880.00	1,794.00	2,210.00
Government Budget	**5.00**	**488.00**	**951.00**	**1,880.00**	**1,794.00**	**2,210.00**
Foreign Grant	0.00	1,792.00	5,550.00	0.00	0.00	0.00
Foreign Loan	0.00	21,404.00	9,676.00	0.00	0.00	0.00
Actual Expenditure of (Total)	40.71	16,314.00	6,912.00	11,507.00	NA	NA
Relief and Rehabilitation	0.00	7,925.00	482.00	10,572.00	NA	NA
Relief and Rehabilitation Program (3140001)						
Budget (Total)	9.35	9.35	17.65	17.65	17.65	17.16
Actual Expenditure (Total)	13	25	15	12	-	-

Source: Ministry of Finance, Red Book 2078/79, 2079/80, 2080/81, 2081/82, 2082/23

During the project period, multiple high-priority projects (two at the federal level and fifteen at the local level) were budgeted. It is anticipated that establishing a specialized budget heading for DRR could enhance the visibility of DRR allocations and potentially lead to increased investment in DRR.

Furthermore, a Disaster Management Fund is stipulated under the Disaster Risk Reduction and Management Act in addition to the government's regular budget. Since the fund was recently established, no official documents are available. However, according to an interview with the high-level officer of NDRRMA in 2025, the following amounts have been accumulated. Funds are expected to be utilized for DRR and Pre-disaster investments.

Table 3.1-2 Current Situation of Disaster Management Fund

(Unit: Million NPR)

Disaster related Funds	Balance (As of June 2025)
Prime Minister's Disaster Relief Fund	1,890.0
Central Disaster Management Fund	1,270.0
Province Disaster management Fund	794.1
77 District-level Disaster Funds	690.5
Total	4,644.6

Source: The Himalayan (https://thehimalayantimes.com/nepal/over-rs-465-billion-available-in-disaster-management-fund-ndrrma)

3.2 Key Factors Affecting Implementation and Outcomes

1) Suspension of business trips to Nepal due to the spread of COVID-19 (Jan. to Dec. 2020)

The JICA Expert Team could not enter Nepal for around one year due to the negative impact of the COVID-19 outbreak. The entry restrictions were imposed just as the project was about to begin, so the JICA Expert Team was unable to enter Nepal, and the sharing of project objectives with NDRRMA had to be conducted through online meetings. In Project Outcome 2, DRR High-priority Projects were to be selected promptly in collaboration with relevant agencies, and projects to be implemented by JICA were expected to be included in the annual work plans of relevant agencies in Nepal for the 2021/22 fiscal year and handed over to the DRR implementation phase. Activities for Outcome 2 were instructed to be

implemented as a top priority for this purpose; however, the start of related activities on-site was delayed, making it difficult for JICA to proceed with implementation. Meanwhile, during the period when the JICA Expert Team could not enter Nepal, DRR-related surveys and information collection were conducted within Japan (Chapter 2 Result of the Project, 2.1.3 Activities, (4) Other Activities). Providing DRR-related information to the NDRRMA at the time of its establishment significantly contributed to the NDRRMA's efforts to internalize DRR functions within its organization.

2) Frequent transfer of NDRRMA officers

Frequent staff transfers at NDRRMA sometimes hindered the smooth progress of the project. In particular, given that Outcome 1 was to institutionalize DRR and strengthen the capacity of NDRRMA's organization and personnel, continued involvement by the same staff members could have led to earlier and greater project results.

3) Project formation before CP establishment

This project was developed and implemented before the counterpart organization, NDRRMA, was established. There is no doubt that NDRRMA is the central agency responsible for DRR throughout Nepal under the Disaster Risk Reduction and Management Act. However, at the start of the project, it was unclear to what extent NDRRMA had authority over DRR decisions and whether it would be able to function in its role fully from the outset.

The fact that COVID-19 was still ongoing at the start of the project, along with frequent personnel changes, made it difficult to maintain communication with the counterpart. In particular, the delay of the 4th JCC meeting by over a year caused the project activities to fall behind schedule.

3.3 Evaluation of the results of Project Risk Management

During the project, delays occurred due to the spread of COVID-19 and frequent personnel changes at the CP, resulting in a two-year extension of the project period. However, through online meetings with the CP, the provision of DRR-related information through operations in Japan, continued support for identifying DRR high-priority projects, and ongoing coordination with relevant ministries, local governments, and Development Partners, the impact on the project was minimized. As a result, all planned activities were completed, and the project objectives were achieved.

3.4 Lessons Learned

3.4.1 Project in the field of DRRM

Support for the DRRM field is where Japan has a comparative advantage, but the target countries and regions have been limited so far. As outlined in JICA's disaster risk reduction (DRR) sectoral GA and cluster strategy documents, the resilience of societies changes over time depending on the duration of DRR efforts, and the stage of investment in disaster preparedness also evolves. In countries where DRR is in its early stages, there are situations where development takes priority over disaster preparedness, so it is necessary to consider support that promotes DRR from a longer-term perspective. In the target countries of this project, the project was launched when DRR legislation was being established. In such

countries, systematic research and education initiatives (both formal and informal) on DRRM are insufficient. As an essential element of the path to sustainable development, DRRM needs to be fully integrated into the development process through research, education, and awareness-raising activities.

In addition, the private sector lacks active participation in DRR, and DRR strategies are often not integrated into corporate social responsibility (CSR), sustainable methods, or business continuity plans (BCPs).

Furthermore, initial discussions on social protection and risk transfer mechanisms have only begun, and there are often no clear concepts for collaboration with the financial sector targeting specific disasters and populations. Data gaps also pose significant challenges for risk stratification and the expansion of insurance utilization. Often, no inventory of critical infrastructure would enable cost-based scenario planning and risk modeling for insurance at the sovereign level.

In Nepal, significant progress has been made in DRRM in developing integrated systems such as BIPAD, policy frameworks, and capacity-building initiatives. Still, challenges remain in data management, coordination, and resource allocation. Addressing these gaps through enhanced cooperation, resource mobilization, and capacity development is essential for achieving the expected outcomes and ensuring long-term resilience in countries at the DRR stage, such as Nepal.

Central DRRM authorities typically function as coordinating bodies, guiding various agencies, from national to local levels, in their disaster risk reduction efforts. While their role is primarily administrative, it's vital for connecting different parts of the system. Therefore, these authorities often rely on collaboration with other agencies to secure funding and implement disaster prevention investments. This cooperative approach is key to their effectiveness. This project's success in having NDDRMA internalize the annual facilitation schedule offers useful insights for other similar projects.

Chapter 4 For the Achievement of Overall Goals after Project Completion

4.1 Prospects to Achieve Overall Goal

The project set the Overall Goal as "50 DRR investment projects for resilience are incorporated into the Annual Work Plans of the MoHA/NDRRMA and/or the concerned ministries and/or LLs in the KV". The overall goal will be achieved when the outcome of each output continues to be implemented or disseminated by the NDRRMA. The NDRRMA and JICA Expert Team prepared the annual facilitation schedule for promoting DRR projects among concerned ministries and LLs, and facilitated the implementation of the high-priority DRR projects for earthquakes. As of today, out of 57 high-priority DRR projects, 2 bridges under the responsibility of the federal government (MoPIT), as well as 21 projects under the responsibility of the local levels, have been incorporated in their annual plans. This demonstrates that achieving the Overall goal is highly feasible.

Moreover, the JICA Expert Team prepared a priority projects list, including 165 DRR projects (67 schools, 27 healthcare facilities, 23 hospitals, 46 government buildings and 2 bridges), for further facilitation among concerned ministries and LLs. These tools prepared by the project and the continuous efforts of the NDRRMA will ensure the achievement of the Overall Goal.

4.2 Plan of Operation and Implementation Structure of the Nepalese Side to Achieve the Overall Goal

4.2.1 Plan of operation to achieve the Overall Goal

The NDRRMA and the JICA Team formulated the annual facilitation schedule as shown in Figure 2.1-23 under Activities 2-7 of this report, and continue to utilize this procedure to promote DRR projects, especially those prepared by NDRRMA and the JICA Team as high-priority projects and priority projects.

The other important point is that the DRR budget must be clearly understood to measure the achievement of the Overall Goal. The 30th Executive Committee of DRR decided to request to Ministry of Finance (MOF) through Ministry of Home Affairs (MOHA) to provide separate budget code for DRR in Red Book of the government on 2081/12/7 (20 March,2025). The decision was as follows,

"A request letter will be sent to Ministry of Finance (MOF) through Ministry of Home Affairs (MOHA) to provide separate budget code number for DRR from the coming year."

However, the MOF could not provide the separate budget code in the fiscal year 2025/26 and will be considered for the budget of fiscal year 2026/27. The MoHA/ NDRRMA will also seek endorsement on this matter by the National Council to ensure its implementation.

4.2.2 Implementation structure

The Overall Goal can be achieved by utilizing the existing governance structure for DRR as stipulated in the DRRM Act. The NDRRMA is the focal organization for the enhancement of DRR activities and

will continue to promote and facilitate the implementation of DRR projects by concerned ministries and LLs. The National Council and the Executive Committee are the coordination and decision-making bodies among the three tiers of government. In accordance with the governance structure, the monitoring and reporting mechanism of DRR-NSPoA has been established, reporting from the local levels up to the Executive Committee. The focal persons in the ministries and agencies for disaster management have been identified and recognized by NDRRMA as a focal person's group. The NDRRMA is making the best use of this group for various coordination efforts. The National Platform of Disaster Risk Reduction (NPDRR) was also established to promote the sharing of information and knowledge related to DRR. The head of NDRRMA is chairing the platform for various coordination and discussion, including government bodies, academia, NGO/INGOs and the private sector.

4.3 Recommendations for the Nepalese Side

4.3.1 Utilization of project products for resilience

The coordination mechanisms among central and local level governments were established during the project, and the annual facilitation schedule was established to facilitate central level ministries for the enhancement of DRR activities. The list of high-priority projects and priority projects is a powerful tool for the promotion of DRR activities in the KV. At local level, the LDCRF will be the primary tool to promote DRR investments. These products are continuously applicable to future annual facilitation activities of NDRRMA.

The DRR activities in Nepal are monitored through the implementation of the DRR-NSPoA 2018-2030. The monitoring and reporting mechanism was established in the project. The NDRRMA is expected to monitor the progress of the DRR-NSPoA, high-priority and priority projects, and LDCRFs in a coordinated manner. It should report any issues and provide recommendations for improvements to the EC and NC for decision.

4.3.2 Support to the Local Levels for DRR matters

Following the EC’s approval of the LDCRF guideline, the LL governments are preparing the LDCRFs, which include proposed physical measures within the LLs. Based on such proposals, the local level government are also increasing their budgets for DRR activities. It is recommended that the NDRRMA provides technical support to the LLs within and beyond the KV to develop LDCRFs and to facilitate them to increase DRR investments.

The NDRRMA, in coordination with the MoFAGA, should monitor the progress of the LDCRFs and the evolution of the DRR budgets at the LLs. It is also expected that the NDRRMA strengthens coordination and communication with the provinces. It should provide technical support to the provinces so that the provinces can guide the LLs on the DRR matters.

4.3.3 Accumulation of knowledge and understanding for continuous improvement

It is expected that NDRRMA will accumulate knowledge on the methods and procedures of DRR facilitation activities for the central government and LLs by utilizing the materials and procedures developed by the project. The experience gained from those activities will lead to more efficient and

effective DRR promotion activities in the KV.

Although relevant ministries and agencies understood the importance of the High Priority Projects through coordination meetings, the priority has not necessarily given to the DRR projects in the KV. Therefore, it is recommended that:

NDRRMA should develop a strategy to pursue both development and resilience at the same time to increase priority of DRR project at budgeting process.

NDRRMA advocates, through Executive Committee and National Council, that budgeting mechanism for DRR projects (for example: budget code for DRR, DRR funds/reserve, etc.) is establish within the existing budgeting process.

NDRRMA should strengthen its outreach and communication efforts by providing technical information to raise awareness of DRR among policy makers or decision makers. It should also strengthen the communication with the donors to provide useful technical information for them to understand current needs and gaps.

4.3.4 Coordination with all stakeholders regarding DRR activities

The NDRRMA has been developing coordination mechanisms for various purposes of DRR activities. Facilitation of DRR activities requires continuous efforts to involve various stakeholders, in both private and public sectors, especially the residents in the KV who the final beneficiaries of DRR activities are to have safer environments for their daily lives. It is recommended that the NDRRMA also strengthens its outreach and communication efforts up to the final beneficiaries.

4.4 Monitoring Plan from the End of the Project to Ex-post Evaluation

JICA may dispatch a post-project evaluation mission around three years after the end of the project to follow up on the achievement of the overall Goal of the Project. NDRRMA has recognized it and has agreed to receive such a mission. Monitoring DRR project implementation will be done by the Administration, Planning and Monitoring Section of NDRRMA as part of an annual work schedule.