

**PROJECT
FOR
MAINSTREAMING DISASTER RISK
REDUCTION
THROUGH ESTABLISHING LOCAL
DISASTER RISK REDUCTION PLANS
BASED ON RIVER BASIN STRATEGY
IN SRI LANKA**

PROJECT COMPLETION REPORT

February 2025

Japan International Cooperation Agency

Earth System Science Co., Ltd.

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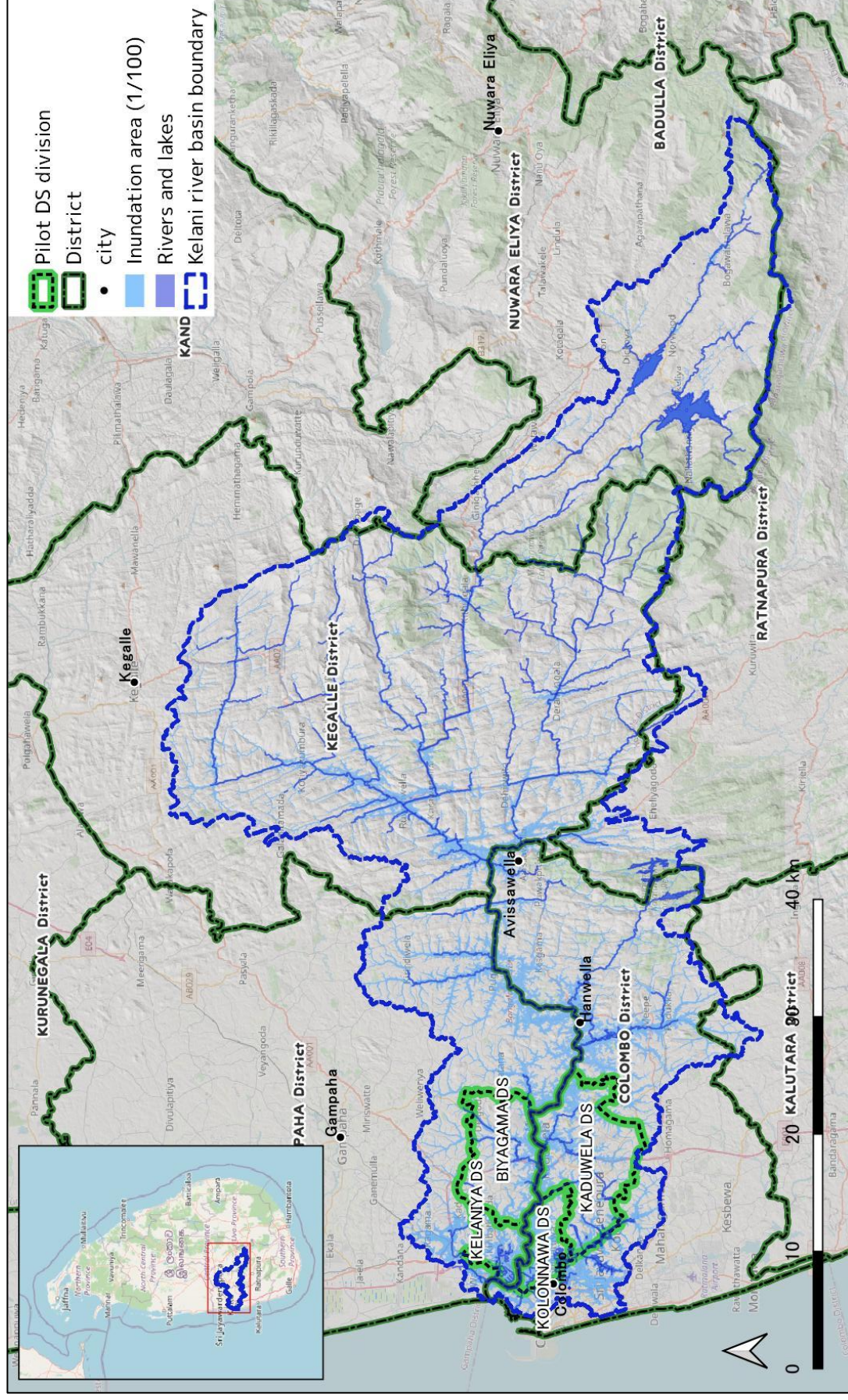
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Kelani River North Bund (2021.11.29)



1st JCC (2021.12.01)



DS/LA Workshop (2022.09.09)



3rd TWG (2023.01.30)



Kelaniya DS/PS W/S (2023.04.25)



NPD Seminar (2023.06.27)



Kelani River Basin Strategy W/S (2023.11.13)



Project Seminar (2023.11.14)



**DS/LA Training - Mainstreaming DRR
(2024.04.29)**



**Kolonnawa DS/Kotikawatta - Mulleriyawa PS
(2024.07.16)**



Site Inspection - Kaduwela (2024.08.16)



**DS/LA Training - Mainstreaming DRR
(2024.08.07)**



Wrap-up Seminar (2024.12.05)



Wrap-up Seminar (2024.12.05)



Final JCC (2024.01.15)

ABBREVIATIONS

APMCDRR	Asia-Pacific Ministerial Conference on Disaster Risk Reduction
BOI	Board of Investment
CEA	Central Environmental Authority
CEB	Ceylon Electricity Board
CResMPA	Climate Resilience Multi-Phase Programmatic Approach
CRIP	Climate Resilience Improvement Project
C/P	Counterpart
DDMCU	District Disaster Management Coordinating Unit
DG	Director General
DMC	Disaster Management Centre
DRA	Disaster Risk Assessment
DRR	Disaster Risk Reduction
DS	Divisional Secretariat
EIA	Environmental Impact Assessment
FY	Financial Year
GDP	Gross Domestic Product
GIS	Geographic Information System
GN	Grama Niladhari
ID	Irrigation Department
JAXA	Japan Aerospace eXploration Agency
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
LA	Local Authority
LUPPD	Land Use Policy Planning Department
MC	Municipal Council
MCUDP	Metro Colombo Urban Development Project
NBRO	National Building Research Organization
NCDM	National Council for Disaster Management
NPD	Department of National Planning
PD	Project Director
PDM	Project Design Matrix
PIP	Public Investment Program
PM	Project Manager
PO	Plan of Operation
PRDA	Provincial Road Development Authority
PS	Pradeshiya Sabha
RDA	Road Development Authority
SLLDC	Sri Lanka Land Development Corporation
TWG	Technical Working Group
W/S	Workshop
UDA	Urban Development Authority

Chapter 1 Introduction

1.1. Background and Purpose of the Project

Sri Lanka is a vulnerable country to natural disasters such as floods, landslides and draughts due to its topographic and climatological characteristics. The impact of global climate change is also a concern. In May 2016, the southwestern moist wind caused by a cyclone traversing the country brought a large amount of rainfall and caused severe damage in Colombo Metropolitan area (Figure 1-1). Due to flood in Kelani River Basin and a huge landslide in Kegalle district, more than 100 people were killed and the economic damage amounted to more than 700 million USD. Strengthening flood control in the Metropolitan area is an urgent issue for the Government of Sri Lanka to promote sustainable development.

In response to the Sumatra earthquake and tsunami in 2004, the Government of Sri Lanka has tackled with disaster risk reduction (DRR) by enforcement of the Disaster Management Act, establishments of the National Council for Disaster Management (NCDM), the Ministry of Disaster Management, and the Disaster Management Centre (DMC), etc. Through these efforts, the capacity on disaster response and recovery of the Sri Lankan society have been strengthened, however DRR investment and development considering DRR in central and local levels have not been promoted.

In such circumstance, the Japan International Cooperation Agency (JICA) has conducted “Data Collection Survey for DRR Sector in Sri Lanka” in 2016-2017 and formulated “Roadmap for DRR in Sri Lanka” with Ministry of Disaster Management, in order to outline a direction of DRR in Sri Lanka based on Sendai Framework 2015-2030. In the Roadmap, basing on a concept that “floods occur across multiple administrative boundaries in the basin”, it is indicated to ensure consistency between the DRR investments in the basin and local DRR plans of DS (Divisional Secretariat) Division and Local Authorities (LAs), and to implement the comprehensive measures step-by-step (Figure 1-2).

In the Kelani River Basin, a “basin investment plan” was formulated by the Government of Sri Lanka under the World Bank fund, and the implementation of the investment plan is being in process by the Government. Therefore, this Project aiming at mainstreaming DRR in local levels based on basin strategy is one of the practical projects to realize the “Roadmap for DRR in Sri Lanka”.

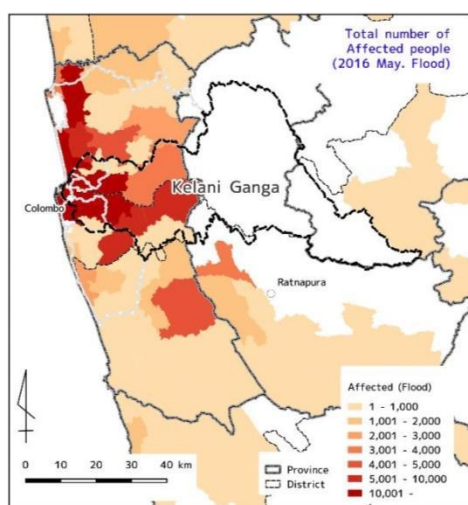


Figure 1-1 Number of Affected People in DS Divisions by 2016 Flood

Source: JICA Study 2017

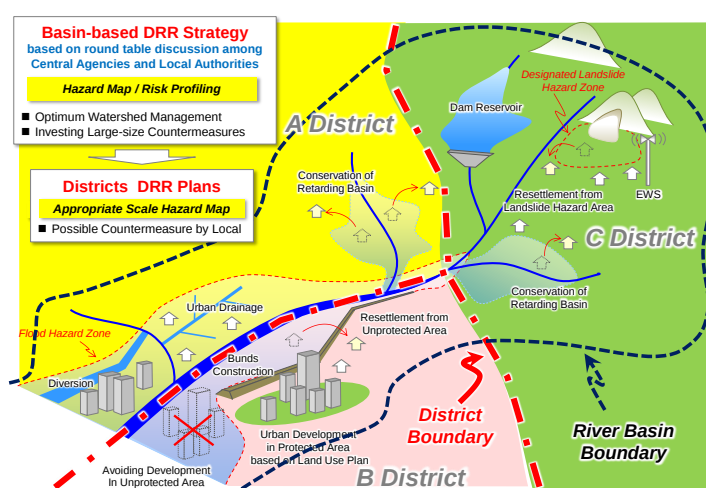


Figure 1-2 Conceptual Diagram of Basin-based Local DRR plan in “Road Map for DRR in Sri Lanka”

Source: JICA Study 2017

1.2. Outline of the Project

■Overall Goal

Mainstreaming DRR and DRR investments are promoted in Sri Lanka based on the mechanism established by the Project.

■Project Purpose

A mechanism to promote mainstreaming DRR and DRR investments is enhanced and piloted in Kelani River basin through establishing local DRR plans.

■Outputs

- Output 1: A mechanism and a roadmap to promote basin-wide coordination and mainstream DRR are developed.
- Output 2: A system is established to incorporate DRR into development projects by relevant agencies, DS Divisions and LAs and national and local levels.
- Output 3: Basin strategy and local DRR plans are developed in consideration of disaster risks in the Kelani River Basin.
- Output 4: Mainstreaming DRR into development processes is promoted at local pilot areas in the Kelani River Basin.

1.3. Scope of the Project

■Project Period

Stage 1: March 2020 to December 2023

Stage 2: December 2023 to February 2025

■Target Area

Colombo and Pilot DS Divisions and Local Authorities in Kelani River Basin

■Implementation Agency

- Disaster Management Centre (DMC)

■Partner Agencies

- Ministry of Defense
- Ministry of Public Administration, Home Affairs, Provincial Councils and Local Government
- Ministry of Agriculture, Livestock, Land and Irrigation, Irrigation Department (ID)
- Road Development Authority (RDA)
- Urban Development Authority (UDA)
- Sri Lanka Land Development Corporation (SLLDC)
- National Building Research Organization (NBRO)
- Department of National Planning (NPD)
- Pilot Divisional Secretariat Divisions (DS Divisions)
- Pilot Local Authorities (LAs)

1.4. Work Plan and Actual Performance

1.4.1. Implementation Flow of the Project

The Project started in March 2020, but due to the impact of the COVID-19 pandemic which spread at the same time of the project launching, travel of the Project Team and the kickoff of the Project had been impossible for a while. During the travel restriction period, the Team had been collecting and analyzing information related to Output 1 and Output 3 remotely in Japan. The Team started traveling to Sri Lanka in November 2021 since the travel restriction was eased. The Team held the 1st Joint Coordinating Meeting (JCC) in December; finally, the practical activities of the Project started. However, in March 2022, Sri Lanka faced an economic crisis, and due to the declaration of a state of emergency, the office work and domestic travel of the counterparts (C/Ps) were again stopped. The Project was suspended for about four months until July 2022. Even though there have been significant restrictions on public investment projects and the resignation of C/P personnel due to the economic crisis, the Project activities have progressed and achieved a certain level of results. The Stage 1 of the project had been completed in December 2023, and the Stage 2 completed in January 2025; the project completion delayed nine months due to the COVID-19 pandemic and economic crisis above mentioned.

Figure 1-3 shows the flowchart of the work implementation (after extension of the Project period).

Project for Mainstreaming Disaster Risk Reduction
Through Establishing Local Disaster Risk Reduction Plans
Based on River Basin Strategy in Sri Lanka
Project Completion Report

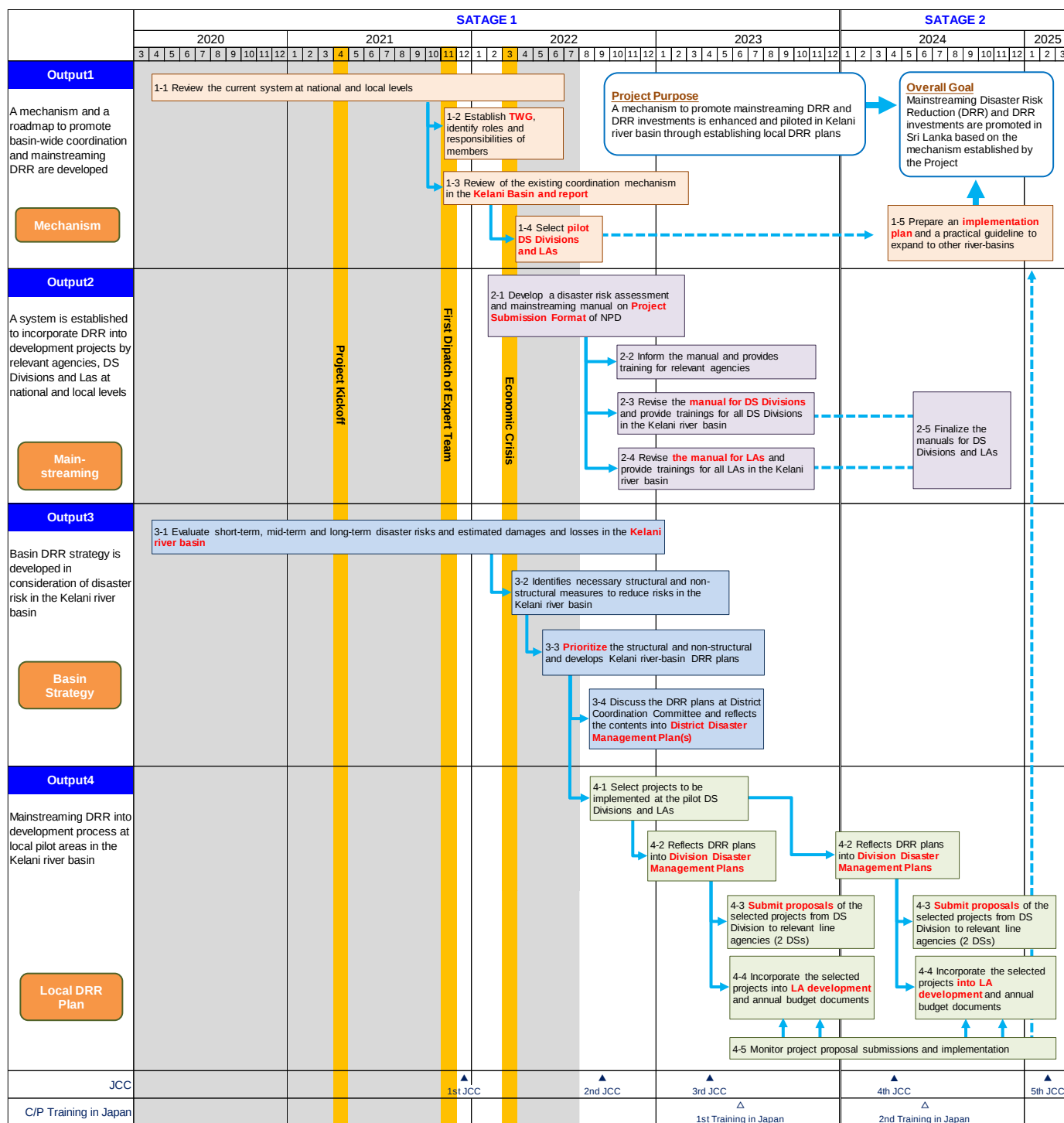


Figure 1-3 Implementation Flow of the Project

Source: Project Team

1.4.2. Inputs

(1) Dispatch of Experts

Table 1-1 shows the dispatch results of the experts during the Stages 1 and 2 of the Project including domestic works.

Table 1-1 Dispatch of Experts

Assignment	Stage 1		Stage 2	
	Original	Actual	Original	Actual
Team Leader / DRR Basin Management	7.50	8.13	3.50	3.15
Vice Team Leader / Disaster Risk Assessment	11.50	11.73	2.50	2.70
DRR Training Program	7.00	6.00	-	-
Flood / Water Related Disaster Management Planning	7.50	6.40	-	-
DRR Institutional Structure / Training Arrangement	7.95	9.27	0.95	0.95
Local DRR Planning	5.50	5.50	2.00	2.00
Development Planning / DRR Investment	5.50	7.57	2.00	2.33
DRR Project Management	2.50	-	3.50	3.62
Training Planning (River Management)	-	1.00	-	-
Total	54.95	55.60	14.45	14.75

Source: Project Team

(2) C/P Training in Japan

In the Project, two batches of C/P training in Japan were conducted; the 1st and 2nd batch of the training was held in May 2023 and May 2024, respectively. Details of the trainings are described in the next section.

(3) Equipment

No equipment procurement was done in the Project.

(4) Sub-contract

No sub-contract work was done in the Project.

Chapter 2 Project Activities

2.1. Activities Related to Whole Project

2.1.1. Project Launching

As mentioned above, the Project started in March 2020, but due to the impact of COVID-19 pandemic, travel of the Team had been restricted. The Team tried to travel several times with the support of JICA office, but those were abandoned due to the situations such as COVID-19 and the curfews. The Team proceeded with gathering information on the administrative process for Output 1 and collecting and analyzing information on existing projects related to the basin strategy for Output 3. Meanwhile, a general election was held in Sri Lanka in May 2020; DMC, the implementing agency of the Project, was transferred from the Ministry of Disaster Management to the Ministry of Defense.

In April 2021, the Team had a kickoff meeting with DMC Director General (DG), the Project Director (PD) and DMC Director of Mitigation, Research & Development Division, the Project Manager (PM). The online meeting was the first meeting between Japanese and Sri Lankan sides. Although the situation was still unstable as to whether the Team would be able to travel, DMC began administrative procedures such as sending official letters to the relevant organizations in order to launch Technical Working Group (TWG). Then, in November 2021, the Team finally began traveling as prevention measures for COVID-19 were eased.



Kickoff Meeting (April 29, 2021)

2.1.2. Joint Coordinating Committee (JCC)

(1) 1st JCC (December 1, 2021)

22 months after the start of the Project, the 1st JCC was held on December 1, 2021. At the JCC, the TWG members and the project implementation structure were confirmed. In addition, a draft work plan, PDM (Project Design Matrix) and PO (Plan of Operation) with one year extension of the project period were presented to the participants. The Team also proposed to select the pilot sites by the second JCC, but it was agreed the pilot sites would be decided in the TWG meeting before the next JCC.



1st JCC (December 1, 2021)

(2) 2nd JCC (September 1, 2022)

The 2nd JCC was held on September 1, 2022, after stabilization of the infection of the economic crisis and state of emergency. At the 2nd JCC, the criteria for selecting pilot sites were discussed and pilot sites were determined based on these criteria (details are shown in the [Activity 1-4]). Additionally, in response to delays in project activities due to the spread of the COVID-19 and economic crisis, it was agreed with JCC member agencies to extend the project period by one year.



2nd JCC (September 1, 2022)

(3) 3rd JCC (March 22, 2023)

The 3rd JCC was held on March 22, 2023. The main topics of discussion were confirmation of project progress and setting of PDM indicators.

Regarding the verifiable indicators for the overall goal indicator in PDM, “2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin based DRR strategies (Target: XX)”, it was decided that at the half of the 8 LAs other than the pilot LAs which are inundation area in the Kelani River basin; the same activities as pilot LAs shall be carried out.



3rd JCC (March 22, 2023)

Regarding the verifiable indicators of the project objective, “2. Out of DRR projects in pilot LAs' annual budget documents, percentage of the projects those implementations start by the end of the project period (Target: XX%)”, implementation of the DRR projects proposed by the two pilot LAs can be confirmed during the Project, so it was set at “50%”. Regarding the indicator of “1. Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding (Target: XX)”, it was concluded that this indicator should be considered again at the next JCC because the budget allocation is not within the NPD's authority for project approval, and project submission by each ministry has been restricted at the moment due to the economic crisis.

Table 2-1 Amendment of PDM

	Original	Revised
Overall Goal	2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: XX)	2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: 4 LAs)
Project Purpose	1. Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding (Target: XX)	1. Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: XX)
	2. Out of DRR projects in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: XX%)	2. Out of DRR projects in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: 50%)

Source: Project Team

(4) 4th JCC (May 20, 2024)

The 4th JCC was held in May 2024, just before starting the major activities in the Stage 2 of the Project and the second training in Japan. In addition to reviewing the progress of the Project, presentations were made on the local DRR plans and its implementation in the pilot DS/LA, especially on budget application and allocation.



4th JCC (May 20, 2024)

During the Q&A session, regarding the maintenance of local drainage channels and efforts to raise residents' awareness, the DG advised that cleaning zones should be set up to ensure proper drainage system, and that private capital should be involved for installation of awareness signs. It was also stated that it is important to take an integrated approach for cleaning, including the sections under the jurisdiction of the central

government and the LA, rather than implementing cleaning only in partial sections.

Most of the C/Ps who made presentation in the 2nd JCC were involved in the second Counterparts Training in Japan. They have developed local DRR plans based on the discussions in JCC and the knowledge gained in Japan.

Project indicators, which had not yet been determined, were on the agenda for project management. It was agreed that the verifiable indicators for the project purpose should be as follows: “Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20% of submitted projects)”.

(5) 5th JCC (January 15, 2025)

The final JCC was held on January 15, 2025. PM gave a project summary and reported that the project activities were completed with the contributions of the TWG and the DS/LAs of the pilot sites.

The indicators on Project Purpose and Overall Goal for the NPD project application agreed at the 4th JCC were also discussed. The new project application format was updated in March 2024 and notified the relevant ministries and agencies. However, the operation has not yet begun; the old format was used during 2024. As a result, the verifiable indicators could not be obtained at the time of the final JCC. For this reason, the indicators were not revised; it was decided that DMC would work with NPD to monitor the status of project applications after the new format is in operation. Similarly, for the Overall Goal indicators, although a baseline cannot be set at this time, it was decided to obtain the number of projects adopted after the new format is in operation.

As for the Overall Goal indicators related to the amount of DRR investment, it is expected that the amount of DRR investment will be able to be calculated after the NPD database is developed and in operation. Therefore, it was confirmed that information on DRR investment collected by DMC; the mid-term review of the Sendai Framework for Disaster Risk Reduction 2015-2030 can also be utilized.

The DS/LA introduced the best practices through the project, such as strengthening drainage maintenance and management, preserving wetlands, relocating illegal residents along rivers, and efforts to establish a bylaw for raising foundations when houses are built in lowlands. It was also reported that the budget for local projects related to DRR in the LA pilot sites have generally remained the same or increased.

Regarding the project activities, it was pointed out that the efforts targeting DS and LA at the local level created a good synergy effect. Both the DS, which grasps needs and connects them to the efforts of national institutions, and the LA, which provides various public services using local budgets, attended all activities, including the training in Japan, and worked together to formulate local DRR plans. Through the activities, LA and DS have improved coordination capacity within the region and promoted efficient DRR efforts. The DMC also pointed out that the DMC played an important role as a bridge between national-level technical institutions and local agencies, and that the TWG led all activities.

The initiatives necessary to achieve the Overall Goal include continuing and strengthening basin-wide and inter-ministerial coordination through providing legal justification to the TWG, visualizing DRR investment through the NPD project application system, providing guidance by DMC/TWG on the formulation and expansion of local DRR plans to other regions and basins, and implementing DRR plans by the LA and supports by the national and provincial governments. Regarding expansion plan to other basins, the DMC proposed Mudun Ela as a model basin with concentrated economic activity and active efforts by DRR-related



5th JCC (January 15, 2025)

organizations, to demonstrate the synergistic effects of national and local DRR projects and the effects of involving sectors other than DRR, thereby promoting expansion to other basins.

The JICA Sri Lanka Office mentioned the possibility of supporting DRR projects in the LA using JICA volunteers, the possibility of supporting the establishment of a legal framework through the enactment of the drafted Flood Management Act, and the importance of maintaining and expanding the activities of related organizations such as DMC and NPD in the future. JICA Headquarters stated that it highly appreciated the contribution of DMC and TWG which worked under coordination by DMC, the importance of the formation of a coordination framework by the DMC/TWG, and the fact that the knowledge gained in the training in Japan was able to be utilized in local DRR efforts.

(6) Other Meetings

The major project activities have been managed and implemented by TWG members composed of related organizations (details of TWG members are described in [Activity 1-2]). In addition to the meetings officially convened by DMC, the TWG meetings were also held irregularly to discuss individual activities. All TWG members maintain high participation rates and are proactively involved in the Project. As the focus of activities shifted to the development and implementation of local DRR plans in the Stage 2 of the Project, more meetings were held at the pilot sites, as well as meetings with non-C/P ministries and agencies related to the NPD project submission format. Table 2-2 shows the major meetings during this period.

Table 2-2 Major Meetings on Overall Project Activities

Date	Meeting	Contents
2020/12/31	Pre-project Kick-off Meeting (online)	To discuss the outline of project
2021/04/30	Project Kick-off Meeting (online)	To discuss project implementation plan
2021/11/26	Meeting with DDMCU	To interview with DDMCU to hear their efforts on DRR
2021/12/01	1st JCC	To approve project implementation plan
2021/12/14	1st TWG Meeting	To discuss pilot DS/LA and project implementation
2022/09/01	2nd JCC	To approve project implementation plan
2022/09/08	LA/DS workshop	To discuss pilot DS/LA and project implementation
2022/09/16	2nd TWG	To discuss pilot DS/LA and project implementation
2023/01/17	LA workshop	To have lectures on mainstreaming DRR at LA
2023/01/30	3rd TWG	To discuss the Administrative Process Report
2023/03/08	4th TWG	To discuss ID/SLLDC's projects and LA's problem list
2023/03/31	5th TWG	To discuss LA's problem list for LA/DS workshops
2023/04/25	LA/DS workshop	To explain TWG institution's roles and responsibilities
2023/04/27	LA/DS workshop	To explain TWG institution's roles and responsibilities
2023/05/12	Briefing meeting for C/P training	To explain the training schedule and bottleneck issues
2023/05/22	1 st C/P Training in Japan	To introduce comprehensive flood management
2023/06/23	Follow-up meeting for C/P training	To review and discuss the action plan
2023/11/07	6th TWG	To confirm the project outputs and manuals
2023/11/08	W/S for NPD Project Submission Format	To inform and train relevant ministries for manual
2023/11/13	W/S for Kelani River Basin Strategy	To discuss the developed strategy with Districts, DSs and LAs
2023/11/14	Project Seminar	To share and discuss the overall Project progress
2024/4/22	Training of Trainers with TWG	To discuss and finalize April W/S contents for DSs and LAs
2024/4/29,30	LA/DS Workshop in Colombo	To hold a Mainstreaming DRR W/S in Colombo
2024/5/21	4th JCC	To monitor project progress and to discuss local DRR plan
2024/7/24	NPD Manual Meeting with line Ministries	To obtain opinion on NPD format manual
2024/8/7	LA DS Workshop in Kegalle	To hold a Mainstreaming DRR WS in Kegalle

Date	Meeting	Contents
2024/10/17	APMCDRR 2024	To share the contents of project outputs at international conference
2024/12/5	Workshop on MDRR - Planning and Implementation -	To discuss challenges and solutions on formulation and implementation of local DRR plans
2024/12/23	7th TWG	To discuss future expansion plan
2025/1/15	5th JCC	To wrap-up project activities and discuss for future

Source: Project Team

2.1.3. Discussion with a New DMC-DG (Project Director)

One month after the start of the Stage 2 of the Project, the PD, DMC-DG, resigned on 27 January 2024. The resigned DG was a retired Army officer who had taken up the post just before the project started. The former DG had focused on disaster response due to his experience of leading search and rescue operations during disasters while his Army service, at the beginning of the Project. However, the former DG showed a better understanding of proactive DRR after continuous discussion with the JICA office and the JICA Project Team and the project activities. The resignation of the former DG was unfortunate as he actively led the JCC and TWG meetings and made a significant contribution to project activities.



Discussion with the New DG

A new DG was appointed in March 2024. The JICA Project Team, in cooperation with the PM, provided the new DG with an overview and progress report on the Project and discussed the importance of the project's objectives of mainstreaming DRR and promoting proactive DRR investment. The new DG expressed an understanding of the need to address DRR before disasters occur and promote investment in DRR at the local level in LA/DS and expectations for the development of local DRR plans and trainings to be implemented by the project. Under the direction of the new DG, the workshops for LAs and DSs and the JCC were smoothly implemented; the new DG also participated in the training in Japan from the end of May, 2024, learning about the concept of flood control in Japan. The DG led the trainees well during the training in Japan and made efforts to ensure that the project activities proceeded smoothly after training.

2.1.4. C/P Training in Japan

(1) 1st Training in Japan (May 2023)

In the Project, two trainings were organized in Japan, each with nine trainees. With the intention of considering the ideal form of “basin strategy”, which is one of the important inputs for the project, the 1st training was decided to focus on river management and basin strategy. The 1st training was held from May 22 to June 1, 2023 on the dates shown in Table 2-3.

Almost all of the participants in the 1st training were TWG members (Table 2-4), and the trainees studied different rivers that are characteristic in Japan, such as the Tsurumi River in Kanagawa Prefecture, the Otagawa River in Hiroshima Prefecture, and the Kako River in Hyogo Prefecture (* site visit to Kako river has been infected with COVID-19). In addition to observing the entire basin, the participants learned that each administrative agency of the country, prefecture, and city is working on flood control projects within its jurisdiction and responsibility based on the basic policy of the basin.

In this training, instead of the conventional method based on site visits and lectures by each organization, the JICA Project Team led the trainees and gave lectures on the overview of the target river basins and key



Figure 2-1 Training Flow for Each River Basin

Source: Project Team

points of the site visits. The Team also led the explanation at the site visited and organized discussions after the visit (Figure 2-1). In this way, the Team ensured that the JICA side could accurately convey the important points to the participants. Moreover, the participants were asked to give a presentation on the responsibilities and activities of their respective organizations at the start of the training; discussion points were set based on the current situation of DRR projects in Sri Lanka, with the aim of ensuring that the training content was effective for the participants.

Additionally, regarding the above initiatives, the Team also carried out standardization of training materials and curriculum so that feedback can be provided for future JICA trainings. This will be discussed in Chapter 3.

Table 2-3 Curriculum of the 1st C/P Training in Japan

Date	Contents
May 21	Arrival
May 22	JICA Briefing
	Discussion: Challenges for River Basin Strategies by each sector in case of Kelani River Basin
	DRR and Flood Control in Japan (Tsurumi River, Ota River, Kako River)
	Training Schedule and Action Plan Development
May 23	[Headwaters] Fountain of Tsurumi River Headwaters
	[Headwaters] Armor Weir waterfront square & linearizing river channel improvement
	[Upstream] Onmawashi Park Reservoir
	[Upstream] Oba Daiichi 2nd Rainwater Reservoir (Oba Kayanoki Park)
	[Upstream] Honda Cars Yokohama Reservoir
	[Upstream] Kawawa Retarding Basin
	Integrated Flood Management in Tsurumi River Basin & Tsurumi River Basin Centre & Exhibition
	[Midstream] Roof top of Tsurumi River Basin Centre
	[Midstream] Multipurpose Recreational Area (Nissan Stadium)
	[Downstream] Nippa pump station/ Nippa Suehiro rainwater storage pipe scheme
	[Downstream] Flood wall around Ashiho bridge
May 24	Discussion: Summary of lesson learned at the Tsurumi River basin and application in the Kelani
	Action Plan development
	Introduction of Case Study 2: Integrated Flood Management of the Ota River
	(Move : Tokyo→Hiroshima)
May 25	[Upstream] Nukui Dam
	[Mid ~ Downstream] History of Ota River and Furu River closure
	Background of the Ota River drainage channel and flood control efforts for "Water city Hiroshima"
	[Downstream] Motoyasu River water front
	[Downstream] Outlook of river and city @Ogonzan
May 26	Sediment disaster countermeasures at Hiroshima
	Site visit: Sabo dam areas
	Discussion : Summary of lesson learned at the Ota River basin and application in the Kelani river basin
	Action Plan development
May 27	Hiroshima Peace Memorial Park tour
	Hiroshima Peace Memorial Museum
	Landscape and flood and soil erosion control at historic sites and famous scenic spots
May 28	Move (Hiroshima→Kobe)
May 29	Antigen Test
	[Canceled] Introduction of case study 3 : Integrated Flood Management at the Kakogawa River
	[Canceled] Reservoir based on Integrated Flood Management ordinance
	River Improvement Basic Policy and Plan for Kakogawa River (on-line)
May 30	Action Plan development
	[Canceled] Kurodashou town, Nishiwaki city as a model ward
	[Canceled] Nishiwaki Middle School playground as a rainwater storage

Date	Contents
	[Canceled] Toryu nada
	[Canceled] Takimi bridge improvement and river embankment at Takimi ward
	Kotaka ward, Kato city as a model ward (on-line)
	[Canceled] Takasago new municipality building
May 31	Site Visit : Nigawa Yurino Landslide Centre (on-line)
	Discussion : Summary of lesson learned at the Kako River basin and application in the Kelani river basin
	Action Plan development
June 1	Action Plan development
	Action Plan presentation
	Evaluation Session, Closing Ceremony
Jun 2	Departure (3 participants departed on June 6)

Source: Project Team

Table 2-4 Participants of the 1st C/P Training in Japan

No	Name	Organization / Position
1	Ms. Anoja Senevirathne	Director, Mitigation, Research & Development Division, Disaster Management Centre
2	Mr. Shan Pathirana	Assistant Director, Training Division, Disaster Management Centre
3	Ms. Ishara Dilrukshi	Database Analyst, Mitigation, Research & Development Division, Disaster Management Centre
4	Ms. Gayani.N. Jayathunga	Additional Director, Environmental and Social Development Division, Road Development Authority
5	Mr. Amarasinghe Chalukya Budhindra	General Manager, Research & Design Division, Sri Lanka Land Development Corporation
6	Mr. W.H. Keerthirathne	Deputy General Manager, Research & Design Division, Sri Lanka Land Development Corporation
7	Mr. R.Mahesh.B. Somarathne	Senior Geologist, Landslide Research and Risk Management Division (LRRMD), National Building Research Organization
8	Ms. Wijesinghe Pandithage Pathmalatha (Padma)	Deputy Director, Environment Division, Environment & Landscape Department, Urban Development Authority (UDA)
9	Ms. Rajitha.K.L. Jagoda	Director (Acting), Environment Division, Agriculture Department, National Planning Department



Pre-training Briefing



Explanation of Tsurumi River Basin



Explanation of Ota-River Flood Way



Summary Discussion after Site Visit

Source: Project Team

Outline of the Action Plan

As for the action plan to be formulated after the training, since most of the trainees are TWG members, all trainees had created one action plan related to the content of the Kelani River Basin strategy, which was formulated in Output 3. The contents of the action plan are as follows.

Action 1: Review of existing flood management ordinance, draft flood management act, national water resources policy, ensuring participation of all stakeholder agencies.

Based on the knowledge learned in Japan, TWG members will provide recommendations to the Irrigation Department (ID), which is responsible for flood management, for example, proposing to develop basin-based policies for major basins. ID, SLLDC, Provincial Irrigation Department, Agriculture Department, LAs and DMC shall be involved in the work of reviewing.

Action 2: Review of existing policies, rules and regulations for development and development control under different institutions to develop one basin policy.

This action will involve UDA, SLLDC, Central Environmental Authority (CEA), Wildlife and Forest Department, Wildlife and Forest Department, Water Resource Board (WRB), Natural Resources Management Center (NRMC), Land Use Policy Planning Department (LUPPD), RDA, NBRO, National Water Supply and Drainage Board (NWSDB), CEB, and Board of Investment (BOI) who are involved in the development. Identify gaps with existing policies to develop watershed strategies. As a result, a system that enables river management in a comprehensive manner with a single basin strategy that has quantitative targets shall be developed. The strategy includes cost-benefit analysis and coordination among related organizations to ensure that appropriate projects are selected.

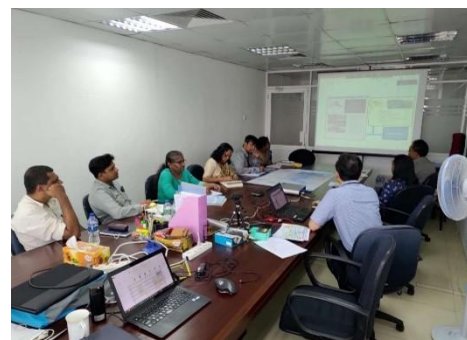
Action 3: Review of existing study reports on Kelani River Basin and identify the gaps based on the lessons learned during the training.

The TWG will review the research reports related to the Kelani River Basin that have been carried out by various donors, confirm the requirements proposed in each report, and prepare to formulate a single basin strategy. The strategy includes structure development plans, river improvement plans, water storage capacity increase plans, and runoff reduction plans.

Action 4: Evaluate non-structural measures such as hazard, exposure, vulnerability and risk for data information-based decision making such as real-time river monitoring, countermeasures design and implementation / proper reservoir operation. Promote community participation for early warning and education.

By implementing the above actions, risk information can be accessed during development. Improving disaster preparedness knowledge at the local level and empowering local decision-making. While fulfilling their administrative responsibilities, local governments will also educate citizens about their rights and encourage them to make DRR efforts.

After the training in Japan, all TWG members, including ID who had been unable to participate in the training, reviewed the action plan and discussed the application of the knowledge gained in Japan to the Kelani River Basin strategy. All members learned that the current basin investment



Discussion after C/P Training in Japan

plan to rely on high levees to improve river flow capacity would result in significantly higher water level than the surrounding ground, which could cause severe damage in the event of a levee breach. They also recognized that constructing long continuous levees in urban areas would be costly, and that it would be necessary to construct numerous pumping stations to drain inland water. On the other hand, in the downstream of the Kelani River, where urbanization is already progressing, it is not easy to build a spillway or widen river channels, so measures such as promoting water storage in reservoirs and basins were discussed.

(2) 2nd Training in Japan (May 2024)

The second training in Japan was conducted from 27 May to 7 June 2024 (Table 2-5) for TWG members of the DMC DG and ID and local administration officials from the pilot DS/LA (Table 2-6), on the subject of local administration (municipal level) approaches to flood control measures in the basin. During the training, the participants firstly learnt about the full menu of comprehensive flood control measures in the Tomoe River (such as embankments and dredging in the downstream area, spillways, retarding basins and retention ponds in the upper and middle reaches, rainwater storage in each development project, and land use regulations etc.), and understood the basics of flood control measures. At the Yahagi River, the participants understood the coordination mechanism within the basin and the role of each stakeholder and learnt about the cooperation and coordination of all parties involved in flood control. At each river, prior lectures were given by the Project Team to give an overview of the river and the measures and key points before the site visit. After the site visit, the trainees had time to organize the points they had learnt and discuss and prepare an action plan to apply to the Kelani River Basin.

Through this training, the trainees deepened their understanding of the challenges in the Kelani River Basin and the measures that should be implemented at the local administrative level, and discussed measures to promote comprehensive flood control and mainstreaming DRR at the national level. Furthermore, actions on the promotion of investment in DRR were discussed as preparations for an action plan.

In addition, as the second training course in Japan was mainly for local government officials, who sometimes have difficulty in listening and speaking in English, a Sinhala interpreter was hired in addition to the English interpreter to provide an environment where there are no language barriers for understanding.

Table 2-5 Curriculum of the 2nd C/P Training in Japan

Date	Contents
May 26	(9 participants arrived to Japan)
May 27	About the training schedule and elaboration of the Action Plan Introduction: Jurisdiction and roles of each organization in the Kelani River Basin and comparison of the comprehensive flood control in Japan and Kelani River Basin strategy Case Study: Comprehensive flood control of Tomoe River (a class 2 river) Presentation and Discussion: "Challenges related to the entire Kelani River Basin, as well as the roles and challenges of the Local Governments" (Move) Tokyo→Shizuoka city
May 28	Site visit : Shizuoka City Flood Control Interaction Museum (KawaNavi) "Shizuoka City Flood Measures Promotion Plan" and outline of watershed measures Efforts for the town development considering the risk of flooding through the Location Optimization Plan Site Visit: [Pref.] Oya River drainage channel sluice gate
May 29	Site visit: [Pref.] Oya River drainage channel Site visit: [Pref.] Asbata retarding basin in 2nd construction area: Overflow levee Site visit: [Pref.] Asbata retarding basin 1st construction area: Utilization of floodwaters through local organizations Site visit: Asabata retarding basin view Site visit: [Municipality] Flood protection warehouse: Shizuoka City Flood Defence Corps Nagao River branch base

Date	Contents
	Site visit: [Municipality] Schoolyard Storage: Shizuoka City Ryunan Elementary School
	Site visit: [Municipality] Higashi Shizuoka City regulating pond (private use)
May 30	Formulation and implementation of basin flood disaster countermeasure plans based on the Specified Cities River Flood Damage Countermeasures Act
	Tomoe River project by the Prefecture
	Regarding the maintenance and management of river facilities by the Prefecture
	Site visit: Prefectural Office Observatory - Historical canals around the Sumpu Castle ruins
	Move (Shizuoka city→Nagoya city)
May 31	Review and Discussion: Organize the inspection points in the Tomoe River Basin and application in the Kelani River Basin
	Development of the action plan
	Case Study: About flood control of 1st class river Yahagi River
	Site visit: Role of the dam in flood control measures in the Yahagi River Basin, coordination among water users, and dam restoration plan
Jun 1	Self-study
Jun 2	Self-study
Jun 3	Coordination and initiatives of Aichi Prefecture in the basin
	Toyota City's basin flood control efforts
	Site visit: [Municipality] Central Park
	Site visit: [Municipality] Central Park maintenance area (pass through by bus only)
	Site visit: [Central Gov.] Yahagi River Toyota Disaster Prevention Station
	Site visit: [Municipality] Yasunaga River maintenance: Uchiyama bridge
Jun 4	Efforts to provide early warning and disaster prevention awareness to residents to prevent flooding in Okazaki City
	Site visit: [Municipality] Flood alarm device (Kugozaki Town)
	Site visit: [Municipality] Rokuna rainwater pump station, Rokuna underground reservoir, Rokuna park
	Site visit: [Municipality] Okazaki City, Hirano & Oto River old wharf (Okazaki Castle)
Jun 5	Anjo City's efforts to popularize "tambo dam" (rice field dams)
	Site visit: Advocacy of rice field dams
	Site visit: Installation and operation of a "regulation pond" on the Toyota Technical Center Shimoyama premises
	Site visit: the Toyota Center
Jun 6	Move (Nagoya city→Tokyo)
	Reflection: Organize the inspected points in Yahagi River and application in the Kelani River Basin
	Discussion: Challenges in the Kelani River Basin and the role of local governments
	Development of Action Plan
Jun 7	Development of Action Plan
	Presentation of the Action Plan
	Evaluation Meeting, Closing Ceremony
Jun 8	(9 participants returning to Japan)

Source: Project Team

Table 2-6 Participants of the 2nd C/P Training in Japan

No	Name	Organization / Position
1	Mr. H.M.Udaya Herath	Director General, Disaster Management Centre
2	Mr. A.D.S Iresh	Chief Engineer, Irrigation Department
3	Ms. A.A.D.C. Nadeeshani Amarasinghe	Divisional Secretary, Kelaniya Divisional Secretariat, Gampaha District
4	Ms. E.L Subasinghe	Secretary, Kelaniya Pradeshhiya Shabha, Gampaha District
5	Ms. D.P. Danmika Saddhasena	Assistant Divisional Secretary, Kaduwela Divisional Secretariat, Colombo District

No	Name	Organization / Position
6	Mr. D. M. S. M. Disanayakae	Municipal Engineer, Kaduwela Municipal Council, Colombo District
7	Mr. R.A.B.T. Ranasinghe	Technical Officer, Kotikawatta-Mulleriyawa Pradeshiya Sabha, Colombo District
8	Ms. S.A. Chandima Sooriyaarachchi	Divisional Secretary, Biyagama Divisional Secretariat, Gampaha District
9	Ms.W.M.P.Nipunika Kumarasinghe	Technical officer, Biyagama Pradeshiya Shabha, Gampaha District



Briefing before Site Visits



Tomoe River: Rubber Dam



Yahagi River: Yahagi Dam



Reflection Discussion

Source: Project Team

Outline of the Action Plans

Based on the knowledge gained from the training in Japan, discussions were held on the contents applicable in Sri Lanka, including structural measures (stormwater drainage/main river measures, retarding basins and runoff control), coordination mechanisms within the basin, disaster management planning/land-use regulation, disaster awareness/early warning. The participants compiled and made presentations of the action plans. The main items of the action plans were DMC/ID: dissemination of river basin strategies and promotion of DRR investment and planning; DS/LA: maintenance and improvement of local drainage channels and land-use regulations (floodplains/rainwater harvesting/resettlement of out-of-bank land).

DMC/ID Group

- Theme : Disseminate the concept of river basin strategies to other river basins in Sri Lanka
 - Action 1: Strengthen and amend existing legal provisions and develop new by-laws (identify gaps).
 - Action 2: Resettlement planning through identification of illegal occupation.
 - Action 3: Mainstreaming DRR in LAs (short term).
- Theme : Promote DRR investment and DRR planning at the local level
 - Action 1: Capacity building on emergency response, DS and LA
 - Action 2: Development of a basin strategy for each agency to play its role and national level agencies

to work together towards DRR

- Action 3: Identification of disaster-prone areas of the Kelani River and budget allocation for disaster mitigation programmes to reduce disaster damage

Kaduwela DS/MC Group

- Short-term plan
 - Action 1: Clean up urban drainage channels
 - Action 2: Implement community awareness programmes and create voluntary disaster response units
 - Action 3: Mapping of drainage channels on GIS
 - Action 4: Install urban waste traps and collection points to eliminate drainage blockages
 - Action 5: Implement development plans
 - Action 6: Establish a voluntary disaster force
 - Action 7: Develop a residential drain cleaning campaign
- Long-term plan
 - Action 1: Develop a drainage cleaning plan.
 - Action 2: Develop the by law for the drainage system development to municipal Council ordinance
 - Action 3: Regulate pollution from sand mining and factories
 - Action 4: Relocation of illegal settlements in rivers, tributaries and protected areas
 - Action 5: Improve storage capacity of marshy land area

Kotikawatta-Mulleriyawa PS Group

- Short-term plan
 - Action 1: Cleaning and renovation of drainage channels
 - Action 2: Installation of awareness signs in tributary protection areas
 - Action 3: Mandatory installation of rainwater harvesting tanks and educational programmes
 - Action 4: Orientation of people towards water related cultivations
 - Action 5: Cleaning of tributary rivers by SLLDC
- Long-term plan
 - Action 1: Construction of Kelani River embankment by ID and prevention of erosion

Kelaniya DS/PS Group

- Short-term plan.
 - Action 1: Cleaning of identified drainage channels and culverts
 - Action 2: Establishment of retarding tanks among identified residents and temples
 - Action 3: Construction of retarding basins and ponds
 - Action 4: Introduction of retarding basin/rainwater harvesting tanks/ponds on flood-prone private and government land
 - Action 5: Update disaster hazard maps
 - Action 6: Imposing laws for requiring building foundations to be 50 cm above ground level in flood-prone areas.
- Long-term plan
 - Action 1: Housing project for illegal river dwellers

Biyagama DS/PS Group

- Short-term plan

- Action 1: Clean LA drains and culverts
- Action 2: Install water purification systems
- Action 3: Strengthen local disaster management committees and distribute equipment and materials
- Action 4: F/S for construction of retarding basin
- Action 5: Rehabilitate drainage channels on RDA and PRDA roads
- Action 6: Cleaning of canals in paddy fields owned by Agrarian Department
- Action 7: Rehabilitation of sluice gates in ID
- Action 8: Installation of warning signs to prevent illegal reclamation and construction
- Action 9: Implementation of legal action against illegal reclamation and construction
- Action 10: Implementation of construction projects
- Action 11: Establishment of a Biyagama counterpart flood control council
- Long-term plan
 - Action 1: Installation of sluice gates by ID
 - Action 2: Proposal to turn abandoned agricultural land into retarding basin
 - Action 3: Proposal of retarding basin utilizing abundant paddy field
 - Action 4: Implementation of ecosystem protection activities in existing wetlands
 - Action 5: Proposal to develop an appropriate drainage system under the highway
 - Action 6: Installation of paddy field dams

2.1.5. Participation in the Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR 2024)

As an activity related to the dissemination of the project's outcomes at international and regional conferences, the DMC PM participated in the Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR 2024) held in the Philippines from 14-18 Oct 2024. As part of a partner event organized by JICA-ADRC-JAXA, the DMC PM was given the opportunity to speak at the conference. The schedule is shown in Table 2-7.

Table 2-7 Schedule of APMCDRR 2024

Date	Schedule of APMCDRR 2024	Travel itinerary
Oct 13 (Sun)		DMC DG · PM Colombo→Manila
Oct 14 (Mon)	APMCDRR 2024, International Convention Center in Manila	
Oct 15 (Tue)		Koike Tokyo→Manila
Oct 16 (Wed)		
Oct 17 (Thu)	(AM) Joining session and presentation	
Oct 18 (Fri)	(PM) Field trip to JICA project	Koike Manila→Tokyo (Overnight flight)
Oct 19 (Sat)		DMC DG · PM Manila→Colombo

Source: Project Team



JICA Session



Inspection Tour of Marikina Project



Meeting with JICA

The DMC-DG, PD of the Project, representing Sri Lanka at Country Statements indicated the importance of integrating disaster management into development activities. The DMC-PM, was a panelist at a partner

session organized by JICA on October 17, 2024. PM explained the steps to integrate basin flood control measures into local government development, based on the four outcomes of the project. Both PD and PM also participated in a JICA-sponsored inspection tour on the last day of the trip, visiting the Marikina River channel improvement project and the Manggahan diversion canal. At that time, the PD commented that this kind of DRR project must be taken place in Sri Lanka; PD and PM are strongly impressed by the project in the Philippines.

2.1.6. Project Seminar

(1) Project Seminar at the End of the Stage 1 of the Project

A project seminar was held on November 14, 2023, at the end of the Stage 1 of the Project. More than 80 people participated, including the Director General DMC (PD) and Director General of NPD, as well as representatives from the central government agency, Assistant Secretary of Western Province, Deputy Government Agency of Colombo and Gampaha districts, DS Divisions and LAs in Kelani River Basin. They exchanged their opinions on the Project and issues and measures to promote mainstreaming DRR.



Project Seminar

The DG NPD explained the issues with the current project submission format and the future revision currently underway. The ID and SLLDC introduced an overview of the Kelani River Basin strategy developed in the Project. Two panel discussions were organized. In the 1st session, representatives from DMC, NPD, and Western Province talked about placing emphasis on disaster considerations in the project approval process, and that it should be applied to provincial projects in which NPD is not involved. It was also discussed that it is important to raise awareness of mainstreaming DRR among citizens and the private sector. The 2nd session focused on mainstreaming DRR at the local level. Needs for support from central technical agencies and the need of an integrated strategy covering the national and local administration lines were discussed. All the participants recognized the importance of higher-level policies, including legal arrangements. As part of this, the Project Team emphasized the importance of implementation of economically and effectively appropriate measures through participation of all stake holders under the basin based broader strategy, and addressed it as a closing remarks of the seminar.

(2) Workshop at the End of the Stage 2 of the Project

On December 5, 2024, a workshop was held to summarize the activities of Output 4 and to publicize the project outputs for the future development of local DRR plans and mainstreaming DRR into development not only in the pilot DS/ LA but also in other DS/ LAs in the Kelani River basin. There were 66 participants from about 38 agencies, including pilot DS/LAs (4 DSs and 4 LAs), other 17 DSs and 19 LAs along the Kelani River, TWG members (UDA and RDA), and DMC. The contents were 1) keynote speeches by DMC on the mainstreaming DRR in local level development planning and its implementation, 2) Outline of local DRR plans developed by the pilot DSs/ LAs and lessons learned, and 3) Action plans and implementation of projects by the pilot DS/ LAs based on the developed local DRR plans. The workshop also conducted the panel discussions facilitated by UDA facilitators in order to stimulate discussion beyond the presentation of the results by the pilot DSs/ LAs.

During the panel discussion, the pilot DS/ LA panelists offered a variety of opinions. Many panelists commented that this was the first opportunity for DS and LA to collaborate on local DRR planning, and that it was very meaningful for both sides to recognize each other's problems. In developing the action plans for the implementation of the DRR measures proposed in the Local DRR Plans, many participants said that

the experience of participating the counterpart training in Japan conducted in May-June 2024 was very useful.



Workshop for Local DRR Planning and Mainstreaming DRR into Development

2.1.7. Public Relations Activities

As for public relations activities, the Project has been publicizing major activities through Facebook such as holding JCCs, TWGs, and workshops at pilot sites. The posts are written in both English and Sinhala, and explanations are also added on the photos. Hashtags in Japanese, English, and Sinhala have also been added so that the posts will appear as related posts to Facebook users in Sri Lanka and Japan, other than those involved in the project. When DS and LA staffs from the pilot site attended workshops, the project announced that there is a Facebook page and utilize it to raise their interest in the project and to let them know about the entire project.

In addition, a brief note was prepared to introduce the project and publicize the progress of activities. After receiving feedback from TWG members, it was translated into Sinhala and distributed to DSs, LAs, and other related organizations in the pilot areas. In response to a request from JICA office, a leaflet (Figure 2-2) of the project was also prepared and distributed at workshops and seminars.



Figure 2-2 Project Brief Notes and Leaflets

Source: Project Team

2.2. Activities Related to Output 1

2.2.1. DMC Reviews the Current System on the Selection of Development Projects, Budget Allocation and Coordination Mechanisms at National and Local Levels (Activity 1-1)

(1) Activities

Information necessary to understand the status and administrative processes for mainstreaming DRR in Sri Lanka, to examine the selection, budget allocation, and coordination mechanism, implementation, and appropriate support methods for development projects, and to identify issues was collected. During the period when travel was suspended due to COVID-19, the project activities were carried out by conducting surveys through online information and local assistants. After October 2021, when travel resumed, interviews with TWG members, literature review, interviews with the pilot DS Division, and distribution of questionnaires were conducted for the national administrative line mechanism; for the local administrative line mechanism, interviews with Western Province and Finance Commission, literature review, interviews with pilot LAs and distribution of questionnaires were the main sources of information collected and reviewed.

In the national administrative line, various hazard maps published by NBRO and ID were not used, and detail risk analysis was not conducted when DS Division applied for DRR projects. Before DRR projects are discussed by the District Coordinating Committee, coordination including advice on the content of the project is carried out by the relevant institutions. Thus, it seems that the foundations for mainstreaming DRR in various sectors at the local level are in place but not yet well functioning. At the local level, the technical officials involved in project proposal rely on their personal knowledge on disaster risk and prevention; the lack of officials with correct knowledge on disaster risk is a challenge.



Interview to Western Province

In the local administrative line, the Finance Commission has already provided guidelines for the preparation of provincial annual budget plans to each province, which include a section indicating that the content of projects across sectors shall take disaster risk into account. In other words, it can be said that the base idea for mainstreaming DRR is already included in the guideline. At the LA level, the level of commitment to DRR varies depending on the size of the LA and the level of awareness of disaster risk, but no projects across sectors have been launched with disaster risk in mind.

The survey results were compiled as an "Administrative Process Report", working together with TWG members, and shared with the pilot sites.

(2) Challenges and Actions

In the duplicate governance system in Sri Lanka, TWG members, who are in the national administration line, were not familiar with the mechanisms of the local administration line, since the TWG members had less experience to work together with the local administration line. Therefore, the project contacted to the Finance Commission, which is in charge of budget allocation proposals for the local administration line, and to the Western Province, which is higher level organization of LAs, to collect information. Both agencies gave a good impression of the project and the need for mainstreaming DRR in LAs. Therefore, by inviting the Finance Commission and Western Province to the project TWG meetings and JCC, etc., and having opportunities to discuss the progress of the project and exchange opinions, the Project was able to receive support for activities on the project, to gain an accurate understanding of the local administration mechanism,

and to consider a realistic entry point for the project.

During the information collection, it was clarified that there was a divergence between what is being done in reality, what is understood by government officers and what is written in official documents. Therefore, it was decided to focus on the contents of official documents and to clarify what is stated in laws, regulations, and guidelines. As a result, the necessity of conducting LA/DS Division tasks in accordance with laws and regulations rather than custom was highlighted to lead a correct understanding of the process.

The “Administrative Process Report” lists the ‘entry points’ for mainstreaming DRR, to clearly indicate what DS Division and LA staff at the local level must improve within their routine work and jurisdiction.

2.2.2. DMC, ID, UDA, Districts and Other Relevant Agencies Establish a Preparatory Kelani River Basin Coordination Organization (TWG) and Identify Roles and Responsibilities of Member Organizations in the Project (Activity 1-2)

(1) Activities

The TWG consisting of the national agencies involved in DRR was established; the TWG members are Director General, Disaster Mitigation, Research and Development Department, Training Department, and District Disaster Management Coordinating Units (DDMCUs) in Colombo and Gampaha provinces from DMC, and SLLDC, NBRO, ID, RDA, UDA and NPD from the outside of DMC.

(2) Challenges and Actions

The TWG, which is a cross-ministerial working group involving key national DRR agencies, played a main role in supporting the activities of the project, not only in information sharing and consultation between ministries, but also in the formulation of basin strategies, advice on local DRR plans and training for local level officials. The participation of the members in the TWG who were in positions to lead the practical part of each agency helped to make the TWG with a strong implementation capability.

2.2.3. TWG Conducts a Review of Existing Coordination Mechanism and Practices, Capacities, Roles and Responsibilities of DRR-related Organizations, Planned and Ongoing Development Projects, Investment Plans, Historical Disaster Records and Urban Development Plans in the Kelani River Basin and Prepares a Report (Activity 1-3)

(1) Activities

In conjunction with the interviews and distribution of questionnaires for Activity 1-1 above, the existing efforts, development plans, past disaster records, and urban development plans of DS Division and LAs as potential pilot sites in the Kelani river basin were also surveyed. In the first workshop inviting the pilot LAs and DS Divisions, the Project Team asked them to describe the jurisdiction and role of each agency. In addition, after the workshop, questionnaires were sent to them to collect base information on each organization. Results and details of past DRR projects were also collected. In parallel with the collection of the questionnaire, the "Program Budget 2022" of the four pilot LAs were obtained; basic information on the pilot LAs was organized (detailed annual budgets, location map, organizational chart, personnel structure, and equipment and materials owned by the



Writing Roles and Responsibility at W/S

LAs).

In addition to the above information, the information collected from the activities related to Output 3 was also compiled into the Kelani River Basin Detailed Study Report. The chapters are: Chapter 1: Natural and Social Conditions, Chapter 2: Natural Disaster Risks, Chapter 3: Composition and Responsibilities of Disaster Management Related Organizations, and Chapter 4: Disaster Management Plans and Projects in the Basin.

The existing coordination mechanisms and the current status in the Kelani River Basin were discussed in interviews with the District Secretariat and during the TWG meetings. The role of the existing District Coordination Committee could be the closest coordination mechanism as a basin coordination committee. However, it is divided by districts rather than river basin, and the District Coordination Committee is a formal place where information is shared with all stakeholders in the region and projects are approved, rather than a coordination function. In reality, the actual coordination at the working level is conducted in advance of the committee. Therefore, it was discussed that it would be practical to consider new coordination mechanism for the basin, which is also planned in the new Flood Management Act.

(2) Challenges and Actions

Conducting activities with LAs were the first attempt even for DMC. In some cases, it was not easy to receive responses from LAs to cooperate with the project. Therefore, individual face-to-face explanations, interviews, and phone calls were conducted as much as possible to build a good relationship. In addition, the activities with the pilot sites were conducted occasionally without a blank for a long period of time. During the visits, not only DMC headquarters staff but also DDMCU officers from DMC's regional offices in Colombo and Gampaha district participated so that local connections could be made.



**First Visit to Kaduwela MC with
Participation of DDMCU**

2.2.4. Based on the Results of Activity [1-3], TWG Selects Pilot DS Divisions / LAs in the Kelani River Basin and Implements the Activities of Output 4 (Activity 1-4)

(1) Activities

The selection criteria for the pilot DS Divisions and LAs were discussed at the first TWG meeting, referring also to the results of information collection on the Kelani river basin in Activities 1-3 above. The selection criteria for the pilot DS/LA were: concentration of population and assets, flood risk, land use, DRR efforts, relation with relevant projects, and others (representativeness as a pilot site, political issues, etc.).

As a result of the discussion at the TWG, Kelaniya DS/PS (Divisional Secretariat/Pradeshiya Sabha) and Biyagama DS/PS in Gampaha District, Kaduwela DS/MC (Municipal Council) and Kolonnawa DS/Kotikawatta - Mulleriyawa PS in Colombo District were selected as the pilot DS Divisions and LAs (Figure 2-3 and Figure 2-4); these pilot sites were approved at the 2nd JCC in September 2022. Kaduwela DS/MC and Kolonnawa DS/Kotikawatta - Mulleriyawa PS in Colombo district are highly urbanized and located in significantly high flood risk area. Kelaniya DS/PS and Biyagama DS/PS in Gampaha District also face high flood risk; in addition, high potential synergies with the stormwater drainage plan developed by another SLLDC/JICA project are expected. These points are the key factors in the selection of the pilot sites.

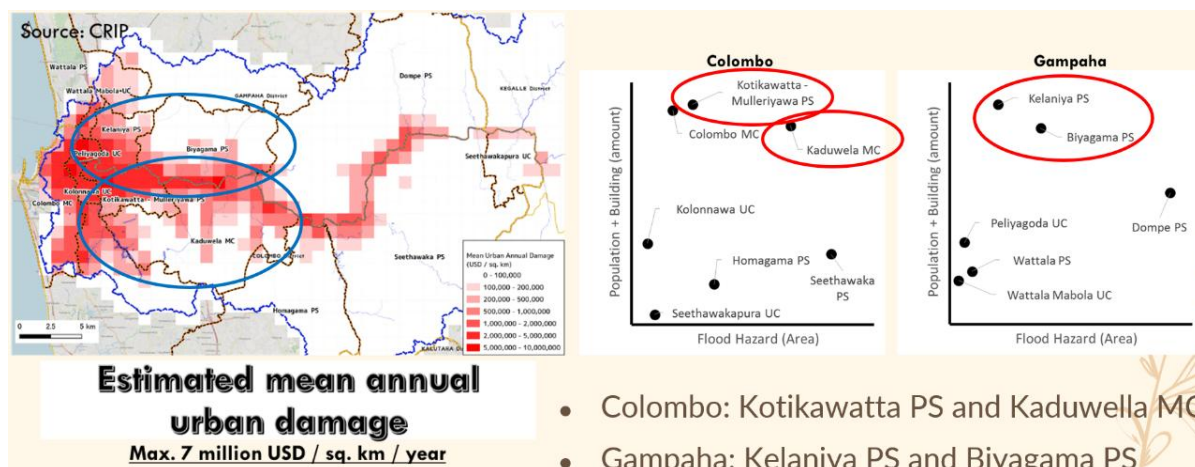


Figure 2-3 Analysis Results on Disaster Risk Using CRIP Data

Source: Project Team

Pilot DS/LA selection (Colombo)									
DS divisions		Colombo	Kolonawa	Kaduwella	Homagama	Seethawaka			
LAs		Colombo MC	Kolonawa UC	Kotikawatta - Mulleriyawa PS	Kaduwella MC	Homagama PS	Seethawaka PS	Seethawakapura UC	
Population in flood area	(Amount)	High	Mid	High	Low	Mid	Low		
	(Density, growth)	High	High	Mid	Low	Low	Low		
Assets in flood area	(Amount)	High	High	High	Mid	Low	Low		
	(Density)	High	High	High	Mid	Low	Low		
	(Amount)	Mid	Low	Mid	Low	Mid	Low		
	(Density)	High	High	Mid	Low	Mid	Low		
Flood area	2016 (area)	Low	Low	Mid	High	Low	High		
	(ratio)	High	High	Mid	Low	Low	Low		
	1/100 (est.) (ratio)	Mid	Low	Mid	High	High	Low		
Flood damage	Population	High	Mid	High	Low	Mid	Low		
	Damage	High	Mid	High	Low	Mid	Low		
Land use		High (urban)		High (dev, marsh)		High (dev, industry)		High (marsh)	
Relation with relevant projects		High (MCUDP, CRIP)		Mid (CRIP)		C			
Geo-political issue, typicality, etc.		Low (Too large, not typical)		Mid (Large unprotected development area)		High (mostly out of basin)		High	
Total score (High: 2, Mid: 1, Low: 0)		20	19	25	24	5	14	5	

Pilot DS/LA selection (Gampaha)									
DS divisions		Wattala	Kelaniya	Biyagama	Dompe				
LAs		Wattala PS	Wattala - Mabola UC	Peliyagoda UC	Kelaniya PS	Biyagama PS	Dompe PS		
Population in flood area	(Amount)	Low	Low	Low	High	High	Mid		
	(Density, growth)	Mid	High	High	High	Mid	Low		
Assets in flood area	(Amount)	Low	Low	Mid	High	High	Mid		
	(Density)	Mid	High	High	High	Mid	Low		
	(Amount)	Low	Low	High	High	Mid	Low		
	(Density)	Mid	High	High	High	Mid	Low		
Flood area	2016 (area)	Low	Low	Low	Low	Mid	High		
	(ratio)	Low	Low	High	Mid	High	Mid		
	1/100 (est.) (ratio)	Low	Low	Low	Low	Mid	High		
Flood damage	Population	Low	High	Mid	High	High	Mid		
	Damage	Low	High	Mid	High	High	Low		
Land use		High (urban)		High (development, urban)		High (marsh)		High (marsh)	
Relation with relevant projects		Mid (CRIP)		High (CRIP SLLDC, JICA)		Mid (CRIP)			
Geo-political issue, typicality, etc.		Low (mostly out of basin)		Low (Too small & urbanized, not typical)		High		High	
Total score (High: 2, Mid: 1, Low: 0)		6	14	18	25	22	16		

Figure 2-4 Priority Analysis for Pilot Site Selection

Source: Project Team

(2) Challenges and Actions

In selecting the pilot sites, there was a challenge in collecting data sources for each of the selected indicators. Instead of conducting a new flood risk analysis, the project utilized the existing results from the World Bank Project CRIP (Climate Resilience Improvement Project), which led to a quick analysis and selection of pilot sites. In addition, by conducting a quantitative analysis by assigning a score instead of a qualitative evaluation, the pilot sites were prioritized objectively so that a fair selection was made.

2.2.5. Based on Lessons Learned from Output 3 and 4, TWG Prepares an Implementation Plan and a Practical Guideline to Expand the Project Outputs to Other River Basins (Activity 1-5)

(1) Activities

Based on the knowledge and lessons learned through the project activities, TWG members discussed the Project Expansion Plan to develop the project results. To disseminate the project results, TWG decided to create a model basin and expand it to other basins (Figure 2-5).

The model basin will be formed in Mudun Ela in Kelaniya area, where economic activity is active and the risk of flooding is high, and many related organizations, including national and local, are conducting DRR projects. Based on the target of flood control plan, a model in which central organizations, local

governments located in both upstream and downstream will coordinate and cooperate to advance measures as a model case. Since the Kelani River, which was the target of this project, has a large basin and there was a slight gap in the scale of national and local flood control measures, a model case of the Mudun Ela basin enables to show the synergistic effects of national and local projects. Namely, the model case is to demonstrate the effects of DRR projects by multiple organizations working together under the coordination of the DMC, and accelerate the expansion to other basins.

In addition, the knowledge gained in the Kelani River basin and the Mudun Ela basin (model basins) and the manuals and training materials created in this project are planned to be used to expand to other basins. Since it is difficult for local level actors to play a main role in formulating strategies for each basin, which is necessary for expansion to other basins, an inter-ministerial disaster risk management committee consisting of central agencies are planned to be established. The committee will take the lead in formulating the strategies. Until the committee is approved as an official organization, the TWG of the project will lead the committee based on the current National Disaster Management Act. Under this inter-ministerial disaster risk management committee, a coordination committee will be established for each basin; each local level actor and central government agency, mainly the TWG members, will work as a team. The TWG will provide guidance, support, and advice on the formulation of local DRR plans, conduct training on mainstreaming DRR, and monitor whether basin stakeholders are implementing projects based on the basin strategy.

In addition to the above framework, the implementation plan for the project outcomes was finalized, incorporating the coordination with national and local agencies as outlined in the drafted Flood Management Act, which is currently undergoing revision. In addition, the implementation guideline for the project results was prepared, which summarizes the practical parts of the training materials so that the contents of the mainstreaming DRR trainings can be utilized when the project is implemented in other river basins.

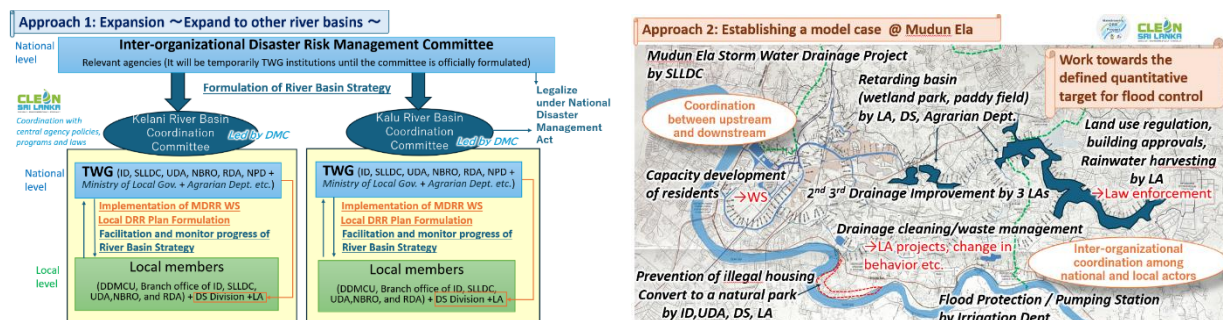


Figure 2-5 Project Output Expansion plan (Approaches to Establishing a Model Basin and Expansion to Other Basins)

Source: Project Team

(2) Challenges and Actions

The concept of a River Basin Coordination Committee is also included in the drafted Flood Management Act; however, prospects for the act enactment are an issue. Therefore, TWG sought a form that could be advanced without waiting for the act enactment. DMC presented the idea that it would be possible to establish a committee under the existing National Disaster Management Act, which is the legal basis for the establishment of the DMC. In that case, there would be the added effect of being able to include target disaster types other than floods also.

The drafted Flood Management Act also proposes a National Inter-Organizational Coordination Committee above the River Basin Coordination Committee. It is also stated in the Project Expansion Plan that an "Inter-Ministerial Disaster Risk Management Committee" covering all disasters would be established based on the

National Disaster Management Act, like the River Basin Coordination Committee.

The expected outcome of the Project Expansion Plan, such as improvement of drainage system, wetland conservation and project implementation/coordination by all relevant agencies in accordance with laws and regulations, are consistent with the new government's policy direction, "Clean Sri Lanka", which aims to address a cleaner physical environment and a nationwide moral commitment to enhance ethical principles. TWG and the Project Team have organized the Project Expansion Plan to make the clear relevance with the new policy, "Clean Sri Lanka".

2.3. Activities Related to Output 2

2.3.1. In Collaboration with NPD, TWG Develops a Disaster Risk Assessment and Mainstreaming DRR Manual to Better Prepare Project Submission Format of NPD in Line with DMC's Mainstreaming Guidelines (Activity 2-1)

(1) Activity

1) Review of DRR Mainstreaming Guideline

The existing DMC guidelines for mainstreaming disaster risk reduction (10 volumes: Table 2-8) were examined in detail, and the issues involved in how they could be reflected in the NPD manual were analyzed. The review was conducted from June to September 2020, and specific examples of mainstreaming DRR in a wide range of development sectors, including urban development, local governments, roads, health, and tourism, were identified.

The background to the development of these guidelines is the current situation where disaster risk assessments are not being carried out in many development sectors. In particular, the issue is that small and medium-sized projects are not subject to disaster impact assessments (DIA). Through this review, the effectiveness of the “DRR entry points” in the guidelines was confirmed.

Table 2-8 DRR Mainstreaming Guidelines
1. National Development Process 2. Urban Development 3. Local and National level Road Development 4. Local Government 5. Local Disaster Management Strategies 6. Tourism Development 7. Private Sector 8. Water Supply and Sanitation 9. Environment Impact Assessment Processes 10. Health Sector

Source: Project Team

2) Support for Filling in the NPD Project Submission Format

Research was conducted into areas not covered by existing guidelines for mainstreaming DRR (e.g. agriculture, water resources, housing, education). Relevant government documents and reports from international organizations were reviewed; entry points for DRR in each sector were organized.

As an example, it was shown that water resources management policies are an important reference in the agricultural sector, and that NBRO design standards can be used as a countermeasure against sediment-related disasters in the housing sector.



Meeting with the Assistant Secretary of the NPD

3) Organizing the DRR Entry Points and Classifying Issues

Based on the information obtained from the above activities, the following issues were classified by sector from the perspective of mainstreaming DRR (Table 2-9).

- Environmental vulnerability (e.g. changes in flood patterns, over-exploitation of natural resources)

- Physical vulnerability (e.g. disaster-prone building design, unplanned land use)
- Social vulnerability (e.g. poverty, urban sprawl)
- Economic vulnerability (e.g. dependence on a single cash crop)

Table 2-9 DRR Mainstreaming in each Development Sector

<u>■Environmental sector (activities that have a significant impact on environmental vulnerability, such as changes in flood patterns)</u> ▪ Environment, disaster management, and water resource management ▪ Agriculture, irrigation, and plantations ▪ Land use, rural/urban development planning <u>■Socio-economically important sectors (activities in which damage to one sector has a significant impact on other sectors)</u> ▪ Roads and transportation ▪ Power/energy/electricity ▪ Sewerage, water supply, solid waste ▪ Health ▪ Housing ▪ Tourism ▪ Education <u>■Cross cutting issues</u> ▪ Economic stability ▪ Social inclusion

Source: Project Team

4) Support for Revising the 14th Item of the NPD Project Submission Format

In collaboration with the NPD, the content of Section 14 (mainstreaming disaster risk reduction) of the project submission format was reviewed. Specific examples were provided to clarify “how to identify disaster risks” and “how to describe mitigation measures and their costs” (Table 2-10).

In addition, a simple screening flowchart was proposed to enable applicants to quickly grasp the nature of the risk (Figure 2-6). This clarified appropriate measures to address disaster risks at the planning stage.

Table 2-10 Example of How to Fill in the Section 14

ii Example of risk mitigation activities

Countermeasures Type	Hazard prevention (control/mitigation)	Damage reduction	Resiliency capacity development
	(Component example) - Environmental conservation Controlling natural phenomena such as riverbanks physically to prevent danger.	(Component example) - Land use/relocation -Emergency operations/early warning	(Component example) - Science and Technology Capacity Development / Research - Climate Change Adaptation - Forecasting - Risk Information Systems - Evacuation Management - Hazard Mitigation Structural Design - Business Continuity Management (BCM / BCP) - Finance and Emergency Support, Recovery and Reconstruction
Cases where there is a risk that the project will have an impact on the environment or socio-economy (TYPE-A)			
	(e.g) Installation of additional culverts due to design revisions after EIA		(e.g) Maintenance, management and restoration of existing canals and culverts
Cases where there is a risk that the project will be affected (TYPE-B)			
		(e.g) Part of the project area will be relocated to a safer area.	(e.g) Raising the foundation of a building
Projects aimed at DRR or climate change adaptation(TYPE-C)			
		(e.g) The area will be designated as a no-rubber plantation zone.	(e.g) Scientific basic research on varieties that respond to climate change, optimal harvest times, and crop planning strategies

Source: Project Team

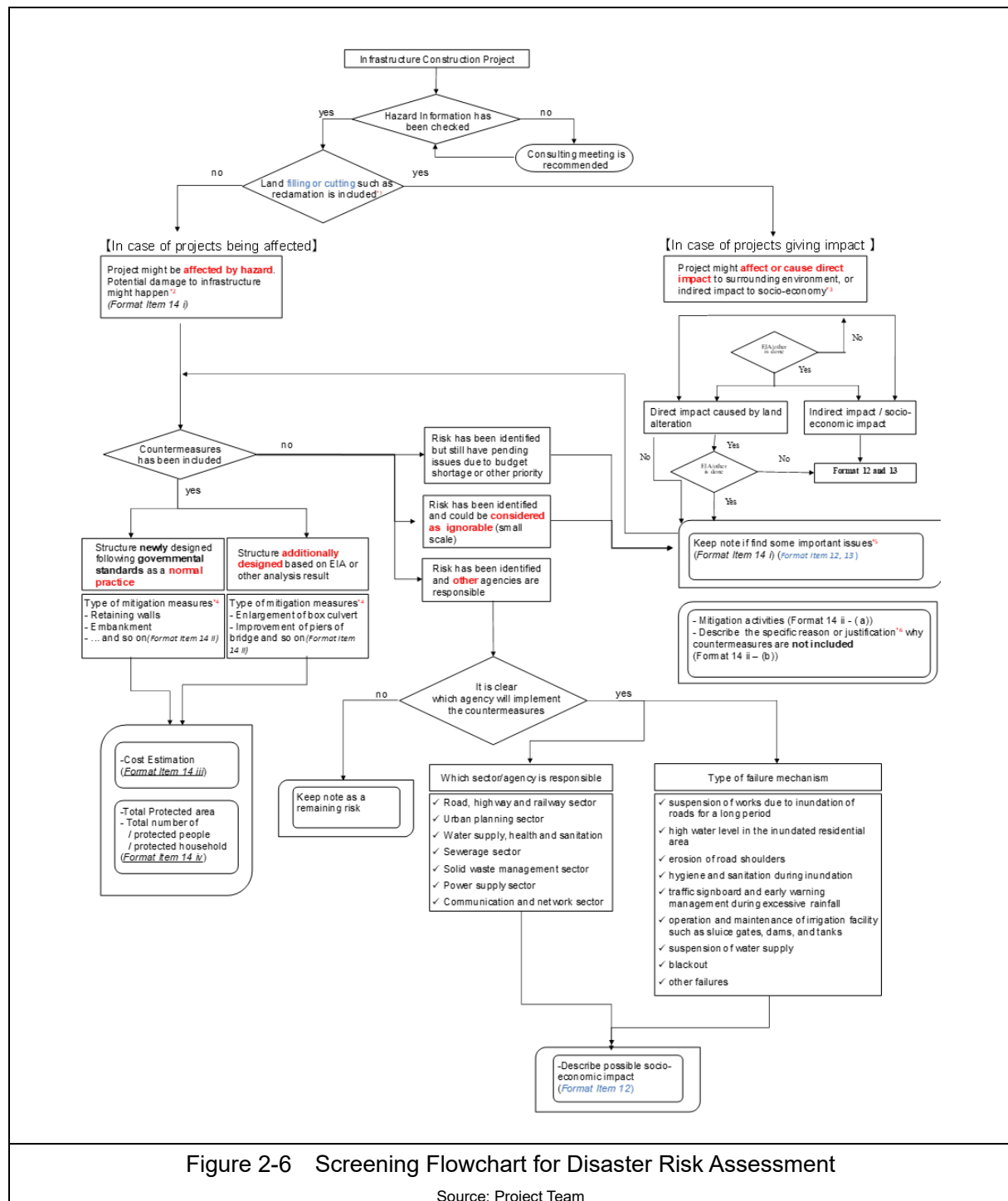


Figure 2-6 Screening Flowchart for Disaster Risk Assessment

Source: Project Team

5) Drafting a Manual for Disaster Risk Assessment and Mainstreaming DRR

From July to November 2022, a draft of the risk assessment and DRR mainstreaming manual was created based on the outputs of the project. The manual is structured as follows, and its content can be used as specific guidelines by development personnel in each sector.

1. Introduction of mainstreaming DRR
2. Risk assessment by project type
3. Guidelines for the format of the description

This has laid the foundations for the practical application of mainstreaming DRR in each development sector.

6) Finalization of the Disaster Risk Assessment and DRR Mainstreaming Manual

The main focus of this activity was on disaster risk assessment and efforts to finalize the manual on mainstreaming DRR. These activities were carried out in close cooperation with NPD and DMC and progressed through incorporating feedback from relevant ministries and agencies. In particular, in the Stage 2 of the Project, the following issues were addressed in order to make the content of the manual more specific and practical.

Application to each development sector: First, in finalizing the manual, specific examples were added to apply the knowledge related to mainstreaming disaster risk reduction to each sector. Efforts were made to deepen understanding of the content; this has made it easier for proponents of development projects to assess disaster risk and describe measures to mitigate it, while ensuring that all necessary information is included. In particular, the revised Project Submission Format (Item 13, formerly Item 14) has introduced three categories proposed by the DMC counterpart of this project: “development projects that increase disaster risk”, “development projects that are exposed to disaster risk”, and “projects that mitigate disaster risk”.

Feedback and dissemination through the NPD seminar: Furthermore, at a briefing session for all ministries organized by the NPD (held in March 2024), there was an opportunity to explain to line ministries how this manual would be reflected in the revision of the project application form, and to exchange opinions. At this briefing, in addition to DRR Mainstreaming, it was emphasized that important elements such as gender and economic and social risks were also included in the submission items, and how this manual would complement these elements was shown. Through such efforts, the transparency of the submission process was increased; at the same time, the foundation was laid for proponents to be able to properly describe the items.

Link to the revised project submission format: At the same time, the revision of the NPD project submission format was carried out in collaboration with the technical cooperation project (public investment improvement project) with the NPD as the counterpart, and efforts were made to improve the specificity and practicality of the content of the submission format.

This revision has helped to clarify and organize the questions that had been problematic in the previous submission format, but there were concerns that the detailed division of questions would increase the burden on proponents. In response to this, examples were added to help with the submission format. The content was revised to be concise and practical.

Proposal of a simplified risk assessment method: Furthermore, in the assessment of disaster risk, the manual has been expanded to include content that can be used for small and medium-sized projects and projects that are not subject to EIA (Environmental Impact Assessment). This includes the inclusion of guidelines for hazard analysis methods and various permit procedures, and other measures to ensure that a wider range of projects can be covered. In addition, a screening flowchart was proposed to simplify the process of narrowing down the nature of risk. After consultation with NPD and DMC counterparts, the content was finalized to be in line with the line agencies practices.

As a result of these activities, the Mainstreaming Disaster Risk Management Manual was not just a reference document, but also a highly practical tool that could be used in actual work. It was decided to integrate it into the NPD project submission operation manual, which is being revised as part of the public investment improvement project. As a result, it is hoped that disaster risk assessments will be carried out more concretely and effectively in the project reviews of each ministry; this has contributed to disaster risk management measures for development projects.

(2) Challenges and Actions

The main issue in the activities was that the content of the existing Disaster Risk Assessment and Mainstreaming Disaster Risk Reduction Manual was both technical and complex; there were many points that were difficult for proponents to understand when filling in the submission format. In particular, there was a concern that the burden on applicants would increase due to the fact that the content of the submission format was subdivided in line with the revision of the submission format. In addition, for small- and medium-scale projects that are not subject to environmental impact assessments (EIA), disaster risk assessments and countermeasures were not being carried out sufficiently; in many cases project proponents were unsure how to respond.

In order to address these issues, the following measures were taken in this project.

1. Providing specific examples of descriptions

By including specific examples that are specialized for each sector in the manual; the Project Team have made it easier for project proponents to find information related to their own projects. This has created an environment where the Project submission format can be described in a specific and efficient manner.

2. Review of individual items in the Submission format

The submission format has been simplified, with the necessary items clarified, making it easier to fill in.

3. Simple flowchart

A simple screening flowchart was proposed to be useful in the initial stages of risk assessment, so that project proponents could quickly grasp the risks they should address first.

4. Feedback by line ministries

In addition to these efforts to improve the documents, continuous discussions with NPD and DMC counterparts were held to incorporate the opinions of various stakeholders and make the content of the manuals more practical. Specifically, the practical applicability of the projects was improved by analyzing past public investment projects and adding examples of descriptions specific to each sector.

In addition, the manual was reorganized and simplified to make it easier for project proponents to use, and it was also made more user-friendly.

Through these efforts, while overcoming the challenges, specific methods for incorporating DRR mainstreaming into practice were clarified. As a result, a manual that was more suited to the project's objectives was formulated.

2.3.2. TWG Informs the Manual of Disaster Risk Assessment and Mainstreaming DRR, and Provides Training for Relevant Agencies, after the Approval of NPD (Activity 2-2)

(1) Activities

A seminar was held to explain the risk assessment and mainstreaming DRR manual for relevant government ministries; feedback was obtained from the relevant ministry staff who are users of the manual (Table 2-11).

Table 2-11 Seminar on the Disaster Risk Assessment and DRR Mainstreaming Manual

date	27.June 2023 at BMICH
Participants	29
TWG members	NPD(7), UDA(1), NBRO(1), RDA(1), DMC(4), SLLDC(1)
Other line agencies	CEA (1),Ceylon Electricity Board, CEB (1), Department of Agrarian Development(2), National Housing Development Authority, NHDA (1), National Water Supply and Drainage Board, NWSDB (1), Sri Lanka Tourism Development Authority, SLTDA (1), Sustainable Development Council of Sri Lanka, SDC (1), Department of Forest Conservation, DFC (1), Department of Fisheries and Aquatic Resources (1), Department of Animal Production and Health (1)



Source: Project Team

At the seminar, the difficulty of disaster assessment by ministries other than disaster prevention-related organizations was pointed out. DMC responded that the cost should be included in the project budget. NPD commented that it would consider improving the format to facilitate the inclusion of disaster prevention items. As the support for the description of Section 14 was insufficient, individual interviews were continued; the draft was revised to reflect the comments collected.

In the activities in 2024, explanatory meetings for the agriculture and medical and health sectors and content confirmation meetings within the NPD were held to promote awareness of the manual and its finalization.

1) Briefing Session on the Manual for DRR Mainstreaming

A briefing session on the DRR Mainstreaming Manual was held in July 2024, with the participation of 28 people, including the DG and Additional DG of NPD and the heads of major departments. The purpose of the briefing session was to have the NPD executives confirm the content of the DRR Mainstreaming Manual in order to integrate it into the NPD Operations Manual. Although the content of the manual was understood, the large volume of the manual was a barrier to integration. So a simplified version was requested.

2) Feedback from the Agriculture and Irrigation Sectors and the Health Sector on the Manual for Mainstreaming Disaster Risk Reduction

Regarding the examples of sector-specific descriptions in the manual, the Ministry of Health, the Ministry of Agriculture (the Directors of the Rural and Pastoral Department, the Fertilizer Department, and the Planning Department of the Agriculture Department), and the Ministry of Irrigation and the Irrigation Department were consulted about the examples and exchanged opinions. The main topic of discussion was the method of organizing the examples in the manual. Many people thought it would be better to organize the draft descriptions for each project example, and it was decided to ask each ministry for specific feedback on the examples after the meeting.



Meeting with Ministry of Health 7/24



**Meeting with Agriculture Department and
Irrigation Department 7/24**

At this meeting, it was also pointed out that the large volume of the manual was a burden for users. In response to this, NPD proposed that the main text of the manual should be limited to explanations of disaster mitigation terminology and the purpose of the questions in item 13, and that examples of descriptions should be presented by the sector as an attachment.

The examples of descriptions will be presented with a focus on the health, education, agriculture/plantation, and fisheries sectors, which are the priority sectors for the NPD Public Investment Improvement Project.

As the NPD Public Investment Improvement Project (five sectors) emphasizes economic analysis and mainstreaming DRR in its training, it is expected that the dissemination of the Disaster Risk Reduction Mainstreaming Manual to other sectors will be further promoted based on the above input.

(2) Challenges and Actions

The keys to this activity were to ensure that the risk assessment and disaster risk reduction mainstreaming manual created in Activity 2-1 was effective, and to gain the understanding of the ministries and agencies that would be using it.

In particular, the manual should be something that ministries and agencies, which are not technical ministries related to disaster risk reduction but for which disaster risk reduction considerations are important, can actually use. Otherwise, there is a high possibility that the disaster risk reduction items in the NPD Submission format will become a mere formality.

Therefore, while working closely with NPD and DMC, several explanatory meetings and individual meetings with key government ministries were held to promote understanding and obtain feedback; the manual was finalized after improvements were made, such as increasing the number of practical examples (see also [Activity 2-1]).

In addition, as a result of the usefulness of this manual being recognized through briefings to the NPD, it is expected that the content will be integrated into the NPD Project Submission Operation Manual, and the results are expected to be more widely used.

2.3.3. TWG Revises the Manual for DS Divisions and Provides Training on the Project Submission for all DS Divisions in the Kelani River Basin (Activity 2-3)

2.3.4. TWG Revises the Manual for LAs and Provides Training on Mainstreaming DRR for all LAs in the Kelani River Basin (Activity 2-4)

At the beginning of the Project, Activity 2-3 aimed at capacity development of DS Divisions regarding risk assessment for the DMC mitigation project, and Activity 2-4 aimed at capacity development of LAs regarding mainstreaming DRR into their small development projects.

However, while proceeding with activities related to the administrative process in Output 1, it is not meaningful to strengthen the capacity of DS Divisions and LAs, separately. More synergies are expected by conducting trainings for DS Divisions and LAs at the same time as local administrative units, because the relationship between two administrative lines, which previously had little interaction, should be strengthened. Therefore, Activity 2-3 and Activity 2-4 are described together in this report.

Regarding the manual for DS/LAs on disaster risk assessment and mainstreaming DRR, at the start of the project, it was envisaged that the manual for the central government agencies, developed in Activity 2-1, would be revised for the local level. However, it was decided that the manual for DS/LAs would be prepared separately and optimized for the local level because procedures of project planning and proposal at the national level and local level are different, as well as the knowledge level on DRR differs between the national agency officials and local agency officials.

(1) Activities

1) Training for DS Divisions / LAs

A workshop was held inviting DSs and LAs in the Kelani River Basin; contents of the workshop were to clarify the jurisdiction and role of each institution, clarify the gap between their work required by the law and the actual practice on the sites, and consider the entry point for the mainstreaming DRR. In addition, a seminar was held in January 2023 for the four pilot sites (4 DS Divisions and 4 LAs); lectures on the necessity of mainstreaming DRR within each jurisdiction and the expected entry points were given. Each LA was asked to identify the projects or locations that are problematic and increasing disaster risk due to inappropriate land use and development projects in practice. Regarding the problem point, LA officials guided the DMC and the Project Team on-site and discussed possible solutions. One of the purpose of the seminar was to promote understanding of the DS Division, which is the local agency of the national administration line, on the issues faced by LA through participation of DS Division as an observer.



Training for Biyagama PS



Training for Kaduwela MC



Training for Kotikawatta-Mulleriyawa PS



Training for Kelaniya PS

In the next training session held in April 2023, the TWG members of DMC/DDMCU, ID, SLLDC, RDA, NBRO and UDA explained the role and responsibilities of the national agencies and shared information on

what kind of projects had been planned and implemented in each local area. Furthermore, TWG members explained the problem points submitted by LAs from technical perspectives of the national technical agencies, and explained the relation with existing project and/or future projects.

So far, one of the major issues has been that the role and responsibilities of each central government agency and local government have been ambiguous, and that local governments have not had a deep understanding on national projects. Through this training, where both national and local agencies participated in, it was able to deepen DS/LA's understanding of the role of central government agencies and existing plans, which was significant in resolving these issues. Furthermore, the Project aimed to clarify possible actions by DS/LAs for the problems in their area, which will be reflected in the basin strategy in Output 3 and local DRR plans in Output 4. Participants of the seminar were also announced that national technical agencies are prepared to help LAs with technical support they may need.



**Training for Kotikawatta-Mulleriyawa PS
/ Kolonnawa DS**



Training for Kelaniya PS / Kelaniya DS



**Training for Kaduwela PS / Kaduwela
DS**



Training for Biyagama PS / Biyagama DS

2) Preparation and Finalization of the Training Materials

The training materials for the LA/DS on disaster risk assessment and mainstreaming DRR (Table 2-12) were prepared by integrating and organizing the results of the above training for DS Division/LA, the administrative process report of Output 1, and the DMC Disaster Risk Reduction Mainstreaming Guidelines, with the help of the TWG members. The training material consists of a "Training Manual" and "Training Material". This training material was converted to a disaster risk assessment and mainstreaming DRR manual for LA/DS. The contents are also intended to be practical for the activities within LA/DSs' jurisdiction.



**Development of Training
Materials with DMC C/P**

Table 2-12 Contents of the Training Material

Module 1: Introduction on DRR (DMC)
Module 2: Legal framework and Governance (DMC)
Module 3: Understanding risk (DMC)
Module 4: Tools for MDRR at Local level
Tool 1: Damage and Loss Assessment (DMC)
Tool 2: Canal and drainage Project and Kelani River Basin Strategy (ID/SLLDC)
Tool 3: Land Subdivision and development approval (UDA/RDA)
Tool 4: Local DRR Planning (DMC • Pilot sites)
Tool 5: Development Project Proposal (DMC)

Source: Project Team

In preparing the training materials, the DMC and TWG members UDA, RDA, ID, and SLLDC cooperated. Furthermore, TWG members participated as instructors on the day of the training for DS/LA.

Content related to mainstreaming DRR in LA covers DRR through land use regulations, flood risks that should be known when LAs construct and maintain local drainage facilities, and basic knowledge on flood control measures. Regarding the contents related to disaster risk assessment in DS, in relation to the contents related to project proposals, the basic knowledge for disaster risk assessment (concepts and assessment methods of hazard, exposure, vulnerability), flood risk assessment (frequency of damage, inundation depth, etc.) and estimation of damage amount were also included.



Development of Training Materials with DMC C/P

After each of the above lectures, there was time for exercise. In the disaster risk assessment session by DMC, practical exercises using maps based on examples were incorporated on the concepts of risk, hazard, and vulnerability. In the sessions by ID and SLLDC, practical exercises using maps were conducted, including lectures on how to read hazard maps, the meaning and use of different maps depending on the occurrence probability years, and how to use them when considering land use. In addition, the hazard maps were printed on transparent sheets to make it easier to recognize the concept of hazard maps and flooded areas on the map. Each table was equipped with A2-sized exercise materials so that eight people could work on each module. The exercise materials provided were: 1) base map, 2) land use map, 3) land use map + satellite image, 4) flood hazard map (100-year return period), and 5) flood hazard map (25-year return period).

3) Trainings using the Materials Developed by the Project

■ Mainstreaming DRR Workshop for LA/DS in the Lower Kelani River Basin (April 2024)

On April 29th and 30th, 2024, participants from 18 DS and 19 LA in Colombo District and Gampaha Districts in the Kelani River Basin were invited to the workshop. The training content is as above. Certificates were awarded to the participants of the two-day session, resulting in a total of 62 participants receiving certificates. Participants were asked to fill out a questionnaire, and more than 90% answered that the training was "interesting" and the average level of understanding was 80%. In addition, some of the trainees' comments included "I learned that it is necessary to consider disaster risks in daily work," and "By drawing the areas with flooding locations that we recognize on the base map and then overlaying the expected hazard areas, we realized that the flood hazard areas are greater than we recognized." The module that was particularly well received by the trainees was Tool 5, which covered how to fill out the project application forms, as this was directly related to their work and could be applied immediately.



Lecture in the DS/LA Training



Groupwork in the DS/LA Training

The results of the workshop questionnaire are shown in Figure 2-7. Seventy percent of the participants were field level staffs (technical officers, disaster relief officers, etc.) from LA and DS, and 30% were decision makers (secretaries, directors, superintendent of work). Many of them had never attended training on DRR before. 90% of the participants answered that the content was "good" or "very interesting", and the average score was 85 out of 100, indicating that most participants were satisfied. More than 80% of the participants answered that they "understood well" or "very well", and on average, they understood 83% of the content. The modules that were particularly good were the module "Kelani Basin Strategy and Flood Control Projects: Role of Flood Control at the Local Level" taught by ID and SLLDC, and the module "Building Permit Process" taught by UDA. The most difficult module was "Legal Jurisdiction and Role of LA/DS from the Viewpoint of DRR."; the reason for this was that there was not enough time to carefully read the original text of the laws, regulations and the legal systems in the explanatory materials during the limited training time. In addition, these contents are also complex and difficult to understand. Therefore, it was decided to simplify the content for the next training and revise it to make the message easier to understand.

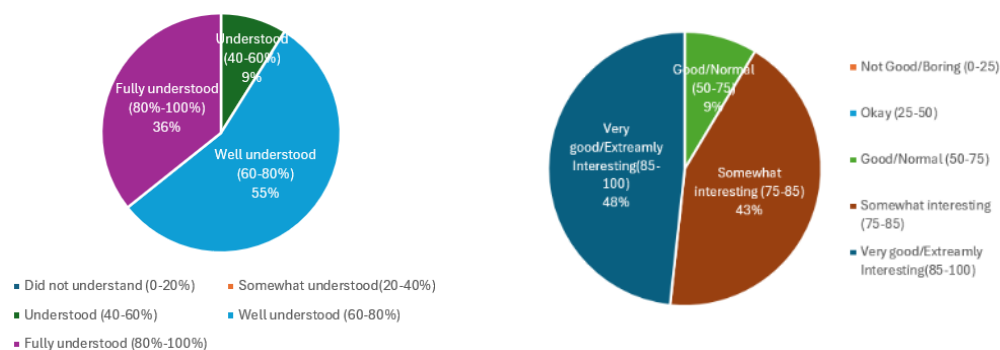


Figure 2-7 Result of the Questionnaire on Understanding of the Participants (Left) and Evaluation of Training (Right)

Source: Project Team

In response to the question about what they learned, participants mentioned the importance of pre-disaster prevention activities, how to use hazard maps when planning and deciding on projects, the responsibilities and roles of national/local agencies and their own organizations in DRR, flood mechanisms and flood control projects, etc. In response to the question about how they would like to use what they learned in their future work, specific answers included informing residents about flooded areas and risks, understanding flood risks when granting building permits or constructing drainage channels and culverts, and instructing Grama Niladhari division to check flood risk areas.

Based on these survey results, it was found that the training content on disaster risk assessment in LA/DS and mainstreaming DRR was fully conveyed to the participants and that it could be used in their future work.

■ Disaster Prevention Mainstreaming Workshop for LA/DS in the Upper Kelani River Basin (August 2024)

On August 7, 2024, a training session on mainstreaming DRR and project proposals was held in Kegalle for LA/DS located in the upper Kelani River basin (Kegalle, Nuwara Eliya, Kandy, and Ratnapura). The training session was held for 16 DS and 18 LA. In April, a two-day training session was held for the lower Kelani River Basin. However, as this training was for the upstream area of Kelani River Basin, the modules on specific tributary measures and drainage measures were only selected as a contents of a single day training. The training session was a success with 62 participants including staff from the four DDMCUs; many participants had never participated in a training session on DRR before, as they had fewer opportunities to participate in workshops by other donors and DMCs compared to the previous target participants in Colombo and Gampaha districts, the capital city and surrounding areas. In addition, some areas did not recognize that their area was part of the Kelani River basin; they commented that it was useful to learn about the role of the upstream area and to learn basic knowledge about floods and mainstreaming DRR. In the project proposal exercise, most groups were able to complete one proposal; the training content was meaningful and focused on the key points in a short time. In addition, participants commented that they would have liked the training to be more practical if there had been time for LAs and DSs to discuss daily issues and for them to receive advice from DMC. The training content was brushed up up through the work of finalizing the training manual.



Groupwork in the DS/LA Training

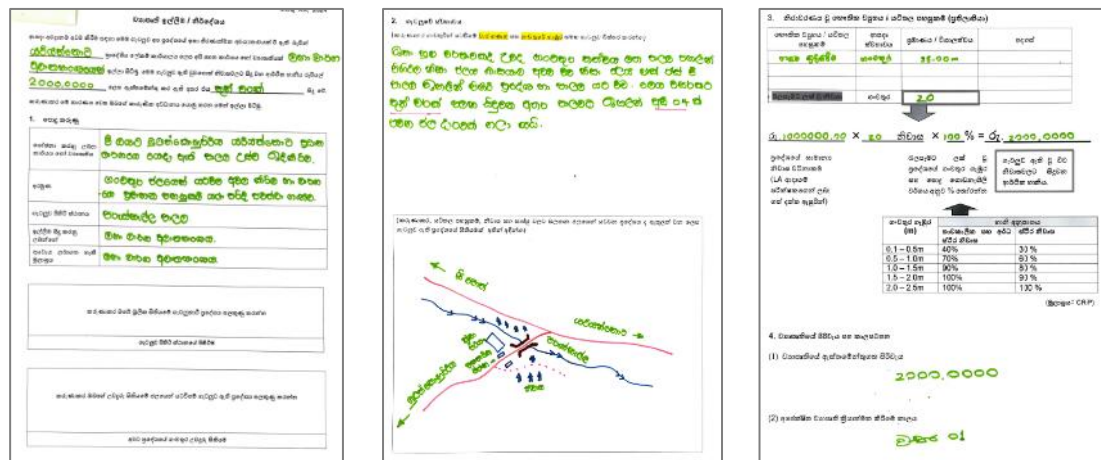


Figure 2-8 Project Proposal Prepared by Yatiyanthotha DS/PS (Kegalle) during the Training

Source: Project Team

(2) Challenges and Actions

Since the training covered a wide area of the Kelani River Basin, the training was divided into upstream and downstream areas to reduce the burden on participants. The content was adjusted to the characteristics of the region. When confirming attendance in advance, many DSs and LAs who came from far away were hesitant to participate. Therefore, as a motivation for participating in the training, the Team issued a certificate of attendance to participants, and encouraged them to participate.

The following are the measures taken in the training to ensure that knowledge is retained.

- In the first lecture of this training, general theories were discussed, such as what disaster risk is, mainstreaming DRR in the duties of governmental agencies, and an overview of flood control

measures. In the subsequent exercise, participants were asked to think about actual DRR measures in their own areas of responsibility, relating to their regular duties. This allowed them to deepen their understanding by turning general theories into specific theories that directly relate to them, and to apply them in their own applications.

- In the exercises conducted by each group, participants were given road maps, land use maps, and flood hazard maps for their local area; participants gained a deeper understanding of regional development/development management and the risk of floods by working on the exercises. Regarding the LA road construction, which is the responsibility of the LA, each group was asked to discuss what coordination and information is necessary for road construction, taking disaster risks into consideration. Through these efforts, participants were able to understand the need to always keep disaster risks in mind when making project proposals and carrying out daily work. In addition, to enable participants to put what they learned in the training into practical works, flood hazard maps that can be used in their work at their affiliated organizations were prepared and distributed to all organizations.
- Attention was paid to ensure that participants could clearly and smoothly understand the relationship and flow of the above modules used in the training. The first half of the module covered basic necessary knowledge such as what hazards, exposure, vulnerability, and disaster risks are, and how they can be investigated. After encouraging participants to understand the basic concepts of disaster prevention and disaster risk, the second half of the module had them work on planning and project proposals.

The following are the ideas used to encourage actions based on risk recognition.

It is important for DS/LA to link disaster risk to their regular work; this is also a focus point in the Project. Specifically, the Project Team asked the training participants to mark the areas that are constantly flooded and causing problems without using technical terms related to DRR and hazard maps; then, the Team asked them to overlay the flooding points on the flood hazard maps to help them recognize the gap between their "perceived disaster risk areas" and the "actual disaster risk areas". As a result, they were able to more accurately understand the scope of the actual disaster risk areas. In the final module of the training, the Team worked on local DRR plans/project proposals based on disaster risks, so that the recognized disaster risks would be taken into account and reflected in the project proposals/implementations that DS/LA perform as part of their regular work.

2.3.5. Based on Lessons Learned through the Activities of Output 4, TWG Finalizes the Manuals for DS Divisions and LAs (Activity 2-5)

(1) Activities

Based on the feedback obtained through the training and activities of Output 4, the training materials were finalized, and the manuals for DS Divisions and LAs were compiled. The training materials and manuals were developed for mainstreaming DRR for LA and DS, but to strengthen the link with the local DRR plan formulation related to Output 4, the training manual included an item on the formulation of local DRR plans in the eight steps. The English version of the manual was finalized in December 2024, and a Sinhala version was also prepared. These manuals were printed and distributed to 38 LAs and DSs and 25 DDMCU together with the output utilization guideline prepared in Output 1 and Kelani River Basin Strategy prepared in Output 3 in electronic form. In addition,



Distribution of Hazard Map to Kaduwela DS

large hazard maps showing the structural measures planned by relevant agencies were distributed to the pilot sites and the DDMCUs in Gampaha and Colombo districts; the maps were to be placed in conspicuous locations so that residents who visited LA and DS and local government officials would be aware of flood-prone areas on a daily basis.

In addition, as per the PM's request, the training material and manual were to obtain ISBN (International Standard Book Number). Thus, preparation of the manual was made to ensure that the content would meet that requirement. In particular, the Mainstreaming Disaster Risk Reduction Training Manual contains many figures and citations of laws and regulations; the content was reviewed, and more easy-to-understand figures were created, with careful attention paid to editing with copyright in mind.

(2) Challenges and Actions

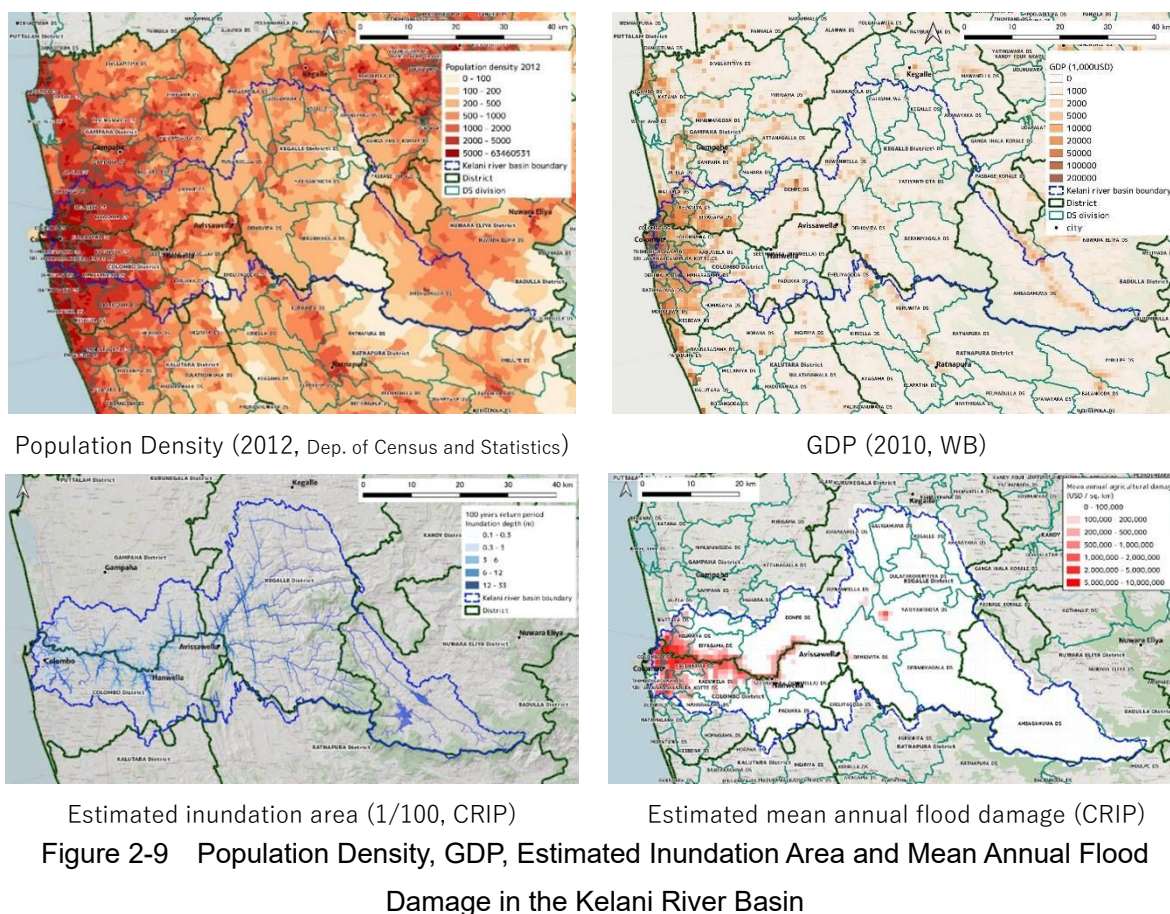
In finalizing the training materials, feedback was received from the training on Output 2 and the activities related to the formulation of local DRR plans in Output 4; supplementary information was added, and efforts were made to create a more accurate and comprehensive training manual. The copyrights of the figures used were checked carefully; figures were replaced as necessary. In addition, experts with knowledge of disaster prevention were also asked to check the contents. The training materials were created with the aim of being easy to understand from a third-party perspective, and with attention paid to making them easy to use in practice. The manuals were printed and distributed to all DDMCU offices and DS/LAs in the Kelani River Basin, with the aim of ensuring that the outputs of the project activities would be utilized at the DS/LA level in their daily work.

2.4. Activities Related to Output 3

2.4.1. Based on the Existing Basin Investment Plans, TWG Evaluates Short, Mid and Long Term Disaster Risks and Estimated Damages and Losses in the Kelani River Basin in Consideration of the Progress of the Plans and the Increase in the Population (Activity 3-1)

(1) Activities

Data regarding disaster risks, such as hazard maps, estimated disaster damage and social-economic data, and existing development/DRR investment plans were collected. High flood hazard areas are located along the downstream of the Kelani River main channel and the tributaries in the Colombo suburbs. It is estimated by CRIP that the total value of the average annual flood damage in the Kelani River Basin is ca. 240 – 360 million USD (Figure 2-9).



Source: Project Team (modified after geographical provided by Department of Census and Statistics, ID/CRIP, Survey Department, Openstreetmap)

The estimated high flood damage areas are mainly located near Colombo, downstream of the Kelani River, where the areas are to be developed in the near future. Therefore, these areas are the prioritized target areas of DRR projects. CRIP formulated the basin investment plan aiming to reduce flood risks in these prioritized areas,

Information on these disaster risks, current measures and future plans were shared and discussed in the TWG meetings. In addition, field visits with C/Ps were also conducted.

Considering the flood risks and future developments in the Kelani river basin, flood control measures in

the Colombo area, where has been highly developed (the area with GDP over 10,000 USD in Figure 2-9), should be prioritized as short term actions. As mid-long-term actions, projects to drastically reduce flood risks in the Colombo and surrounding areas.

At present, there are embankments as a major flood protection scheme built in the colonial era such as continuous embankment at right bank (Gampaha side) and partial embankment at left bank (Colombo side), this scheme can protect the urban area from 1/15-1/20 floods, but the length is limited as only several km (Figure 2-10). Kolonnawa area on the left bank, had been an unprotected area, but due to the rapid urbanization in recent years, the Kolonnawa area was severely damaged by the flood in 2016. The CRIP basin investment plan proposed embankments, including continuous 40 km embankments at both sides along the Kelani River from the river mouth (including continuous embankment to protect the Kolonnawa area), and two upstream multi-purpose reservoirs to protect downstream areas from 100 years return period floods, considering impacts of climate change. However, due to the recent economic crisis, the CResMPA (Climate Resilience Multi-Phase Programmatic Approach) is unlikely to implement the project constructing the embankments.

The studies for the construction of the remaining upstream reservoirs are on-going, but the peak-cutting effect of the reservoirs will be only to reduce the 100 years return period flood discharge (approximately 3,100 m³/s at Glencourse) to around 50 years return period flood discharge (approximately 2,800 m³/s); the peak-cut effect is not significant to protect the city area. Furthermore, the left bank urban area developed outside of flood protection area by existing embankment (such as Kolonnawa area) remains unprotected. Therefore, it is desirable to implement large-scale and drastic flood control projects after the economic situation recovers. Table 2-13 shows the short-, mid- and long-term social conditions, disaster risks and plans related to DRR in the Kelani River Basin, which are summarized based on discussions with the C/P and the results of information collection.

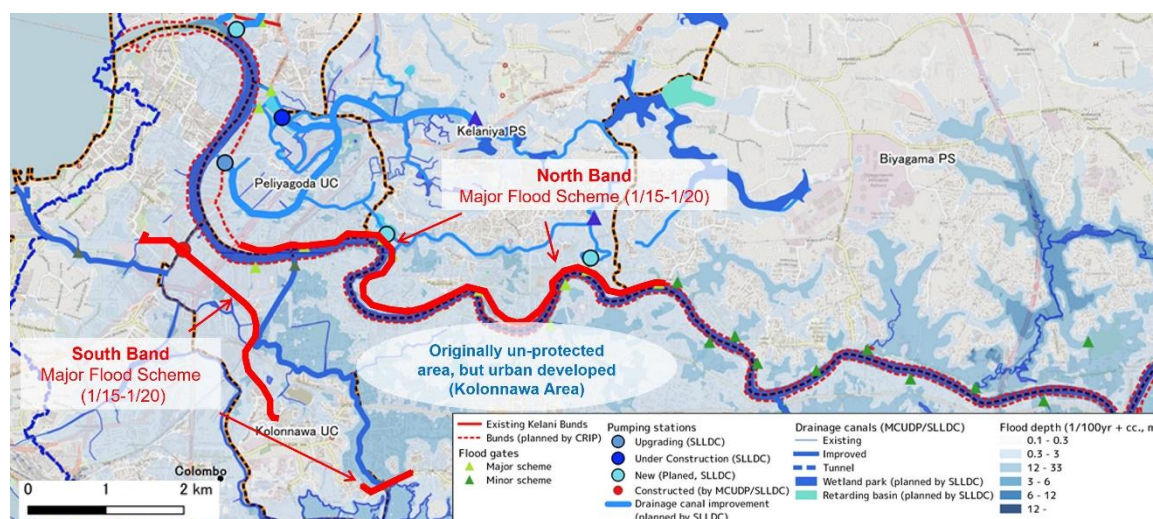


Figure 2-10 Existing Embankments and Planned Measures by CRIP and Others

Source: Project Team (modified after geographical data provided by ID/CRIP, Survey Department, Openstreetmap)

Table 2-13 Social Condition and Disaster Risks in the Kalani River Basin

	Current-short-term	Mid-term	Long-term
Social condition	- Colombo city and suburb area (river mouth-10km): Highly developed, high population density - Colombo surrounding area (-40km, upto Hanwella): high population growth, industrial area development - Undeveloped area in lowland along tributaries	- Further development in Colombo surrounding area (10-40km from river mouth) - Spot development area at towns in the mid-upstream (Avisawella etc.)	
Disaster risks	- Wide inundation area along the Kelani River main channel and tributaries - Severe inland floods: when water level of the Kelani River is high, back water comes into urban areas	- In the pessimistic climate change scenario, 10-12% rainfall increase by 2040 is estimated; flood will be more severe. - Due to further development in lowlands, increase of flood risk is forecasted	
Plans on flood control	- Kelani river major flood protection scheme (ID) prevents 15-20 years return period floods, but the protected area is limited (only several km along the Kelani River). In the other areas, river floods often occur. - SLLDC/MCUDP implemented urban drainage project in Colombo (left bank tributary area of the Kelani River) - SLLDC/JICA formulated storm water drainage plan in Mudun Ela and Kalu Oya basin (right bank tributary area of the Kelani River) - SLLDC improved stormwater drainage in Kolonnawa.	- ID/CResMPA conducts survey to construct multi-purpose reservoirs in the upstream - Amount of peak-cut by the reservoirs is small - It is expected that urban flood risk will be reduced in Mudun Ela, Kalu Oya and Kolonnawa area through implementation of SLLDC's drainage plans	- ID's basin investment plan proposed reservoirs and bunds to prevent 100 years return period floods of Kelani River basin, but construction of the bunds are not be implemented in near future due to economic crisis - Even if the bunds will be constructed, large inundation areas will remain along tributaries; large maintenance cost is also a challenge

Source: Project Team

(2) Challenges and Actions

Japanese expert's first trip to Sri Lanka was in November 2021; it was delayed due to the outbreak of the COVID-19. In advance to the first trip, the Team started to collect information through remote works and the local staff and analyzed disaster risks and social condition in the Kelani River Basin. In addition, global data was also utilized to analyze GDP and other items which spatial distribution data is not provided by Sri Lanka government.

Various DRR projects are planned and implemented in the basin by the relevant agencies under their responsibilities. However, the C/Ps pointed out that even central DRR related agencies don't perfectly understand the DRR projects implemented by the other agencies. Besides, it is hard for local agencies to understand the overall picture of DRR projects implemented by various agencies. In view of this situation, hazard/risk maps and other materials were prepared for districts and DS/LAs to understand the situation of disasters occurring in the basin and the DRR measures.

2.4.2. TWG Identifies Necessary Structural and Non-structural Measures to Reduce Risks in the Kelani River Basin, in Consideration of the Existing Development Plans (Activity 3-2)

(1) Activities

Based on the current disaster risk and development plans, discussions on the necessary DRR actions were done through TWG meetings and the training in Japan. Summary of the discussions is shown below.

1) Countermeasures on Kelani River Floods

The lower reaches of the Kelani River main channel only have a capacity equivalent to the few years return period flood discharge. Thus, drastic flood prevention measures are needed, such as river channel improvement measures including embankment construction, dredging, widening, straightening/shortening and diversion channels, etc. However, economic and social costs for construction of new large-scale channels or widening the existing channel in the lower reaches of the Kelani River are high, since the lower Kelani River Basin has already urbanized; the feasibility of large-scale channels is relatively low. In addition, dredging is also not much effective measures to improve river capacity because the deepest point of the current riverbed is below 0 m.a.s.l. even at a point 40 km upstream from the river mouth. Furthermore, saltwater intrusion is an issue in the Kelani River Basin. Therefore, it is difficult to dredge the riverbed. Considering the river condition, it is necessary to combine measures such as embankment construction to increase river capacity and reservoirs and retarding basin to cut off the peak discharge; those measures are the main flood prevention measures in the Kelani River Basin.

Regarding the construction of embankments, according to the knowledge and lessons learned during the 1st C/P training in Japan, the following points are concerned; 1) the total required length of embankment construction exceeds 100 km, 2) even if the upper stream dam can reduce the 100 years return period flood discharge to around 50 years return period flood discharge, the risk of overflows and breaches of embankments are high, and the construction and maintenance costs of new embankments and numerous pumping stations is high, since the height of embankments exceeds 4 m to prevent 50 years return period floods. Considering these challenges, TWG members discussed the importance of reservoirs and securing wetland conservation as retarding basins to cut off the peak discharge and reduce the scale of embankment construction.

Wetlands and lowlands along the main river and tributaries are widely inundated during flood events and currently function as natural retarding basins. TWG discussed the necessity to preserve the wetlands and lowlands to avoid increasing floods in the downstream areas. In case that the lowlands are developed, it is necessary to construct alternative retention ponds of which capacity is equivalent to the lost retention capacity in the development area. The discussion results were delivered to the stakeholders of Districts, DS Divisions and LAs in a workshop for basin strategy development.

2) Urban Storm Water Drainage

The drainage system of the Colombo urban area in the left bank area of the Kelani River was strengthened by SLLDC/MCUDP (Metro Colombo Urban Development Project), targeting the 40 years return period inland floods. Pumping stations, drainage channels/tunnels and flood gates were constructed. On the other hand, in the Kolonnawa area, both the river flood protection scheme and inland flood control measures have not been developed sufficiently. As a result, flood damage in the Kolonnawa area is significant. Thus, SLLDC is planning to strengthen the urban drainage function through the construction of pumping stations and drainage channels; the improvement of drainage channels and retaining ponds were implemented by SLLDC. However, there are no embankments on the bank of the Kelani River in Kolonnawa area; there

are only natural mounds/natural levees which prevent several years return period Kelani River floods only. Therefore, it is necessary to be proceeded the flood risk reduction projects in coordination with the Kelani River flood protection project and urban drainage enhancement. For the Kalu Oya and Mudun Ela basins, which is located in the right bank area of the Kelani River, it is required to implement the storm water drainage master plan developed by SLLDC/JICA.

At the local level (LA level), the development and maintenance of local drainage channels connected to the main drainage channel to be developed by SLLDC is an important flood risk reduction measure.

3) Legislation and Basin-wide Coordination on Flood Risk Reduction

In Sri Lanka, there are a number of national and local agencies which are responsible to conduct project to reduce risks of floods and other disasters. However, the current Flood Protection Ordinance (1924) was established long time ago and has not been revised to reflect the current situation on the ordinance. It seems that establishment/revision of the laws and ordinances to clearly/define the responsibilities of each agency is required. Moreover, there are insufficient mechanisms for inter-ministerial cooperation, coordination between DRR projects implemented by different agencies, information sharing and basin-wise discussion. Although stakeholder coordination meetings for disaster preparation and response are regularly held twice a year under the initiative of DMC, the scope of these meetings is not to discuss the basin-based coordination and risk reduction. Thus, a draft Flood Management Act has been prepared to address the challenges. After the Flood Management Act will be enacted and enforced, the Act will provide legal endorsement for the jurisdiction of relevant agencies and establishment of basin-wise coordination committees under the initiative of ID. In fact, the basin coordination meetings have been held in basins in northern and southern regions, where disaster damages are caused not only by floods but also by drought. Thus, a basis for such basin-wide coordination mechanism exists; it is important to quickly develop such legislation and organizational structures taking sever floods as an opportunity.

4) Strengthen of Basin Monitoring, Early Warning and Disaster Database

Hydrological observation data and disaster records are the fundamental data for understanding disasters, estimation of future disaster damage through hydrological simulation and studies on disaster countermeasures. Therefore, the development of database, which stores the observed data, disaster records and estimated future disaster risks and provides the data to relevant agencies, is effective for DRR. It was discussed in the TWG that early warning using observation/forecast data to save lives and properties is important until flood risks are reduced by the structural countermeasures in future.

(2) Challenges and Actions

Through the field trips and lectures about various flood countermeasures in Japan, the C/Ps recognized the challenges of the CRIP's Kelani River Basin Investment Plan which includes construction of quite long river bunds. C/Ps discussed suitable combinations of flood countermeasures considering advantages and disadvantages of each countermeasure.

The construction of embankments by the CResMPA is currently suspended. If the design work for the construction of embankments will be started in future, it is better to consider reducing the scale of the embankment construction and increasing flood control capacity of reservoirs and retarding basins. Necessity on a study and reconsideration of the balance of the flood control achieved by embankments and reservoirs/retarding basins is recommended in the basin strategy.

2.4.3. TWG Prioritizes the Structural and Non-structural Measures Identified at Activity [3-2] and Develops Kelani River Basin Short-term, Mid-term and Long-term DRR Plans (Activity 3-3)

(1) Activities

The necessity, priority and timing of implementation of each structural and non-structural measure were discussed with TWG members. The Kelani River Basin was divided into three parts, upstream, mid-stream and downstream areas, based on topographical and social characteristics; the necessary measures for each were reviewed (Figure 2-11).

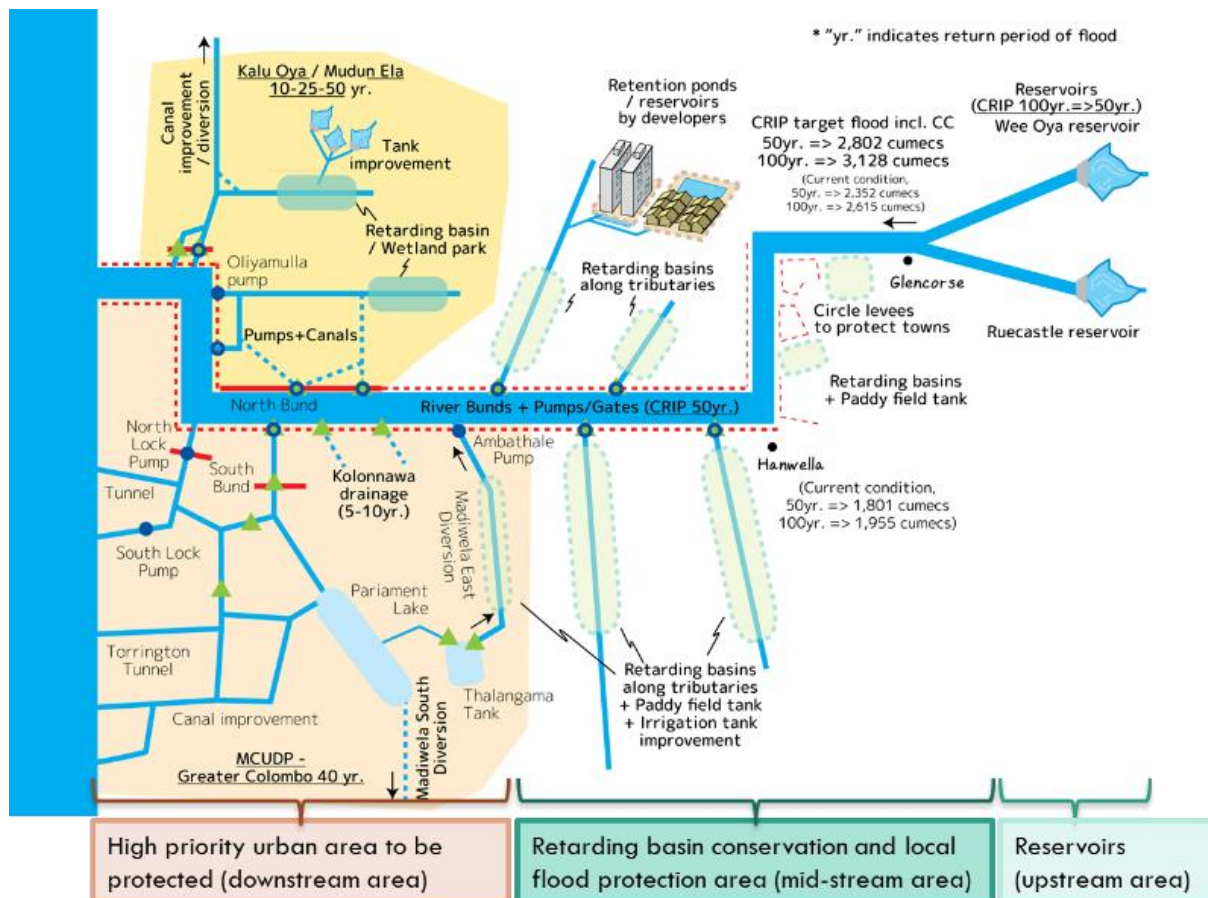


Figure 2-11 Conceptual Diagram of Countermeasures in Upper, Middle and Downstream of Kelani River

Source: Project Team

The main flood control measures for the Kelani River are a combination of peak-cutting of flood discharge by reservoirs in the upstream and conservation of wetlands/paddy fields as retarding basins in the mid-stream, and embankment construction in the downstream. Priority of the reservoir construction in the upstream, which is on-going under CResMPA, is high because of flood peak cutting as well as water use. The lowlands in the mid-stream are frequently flooded during flood events and function as a natural retarding basin. The large inundation area of the lowlands has a significant effect in cutting flood peaks in the downstream area. Therefore, conservation of lowlands must be implemented as soon as possible. In future, it is desirable to replace the effect of retarding basin with reservoirs in the upstream area. The construction of the embankments along the Kelani River main channel and the improvement of urban drainage in the downstream area are high priority projects, as assets are concentrated in the downstream.

Figure 2-12 shows a summary of necessary structural and non-structural countermeasures which studies in TWG. The contents were finalized in the C/P meeting in November 2023.

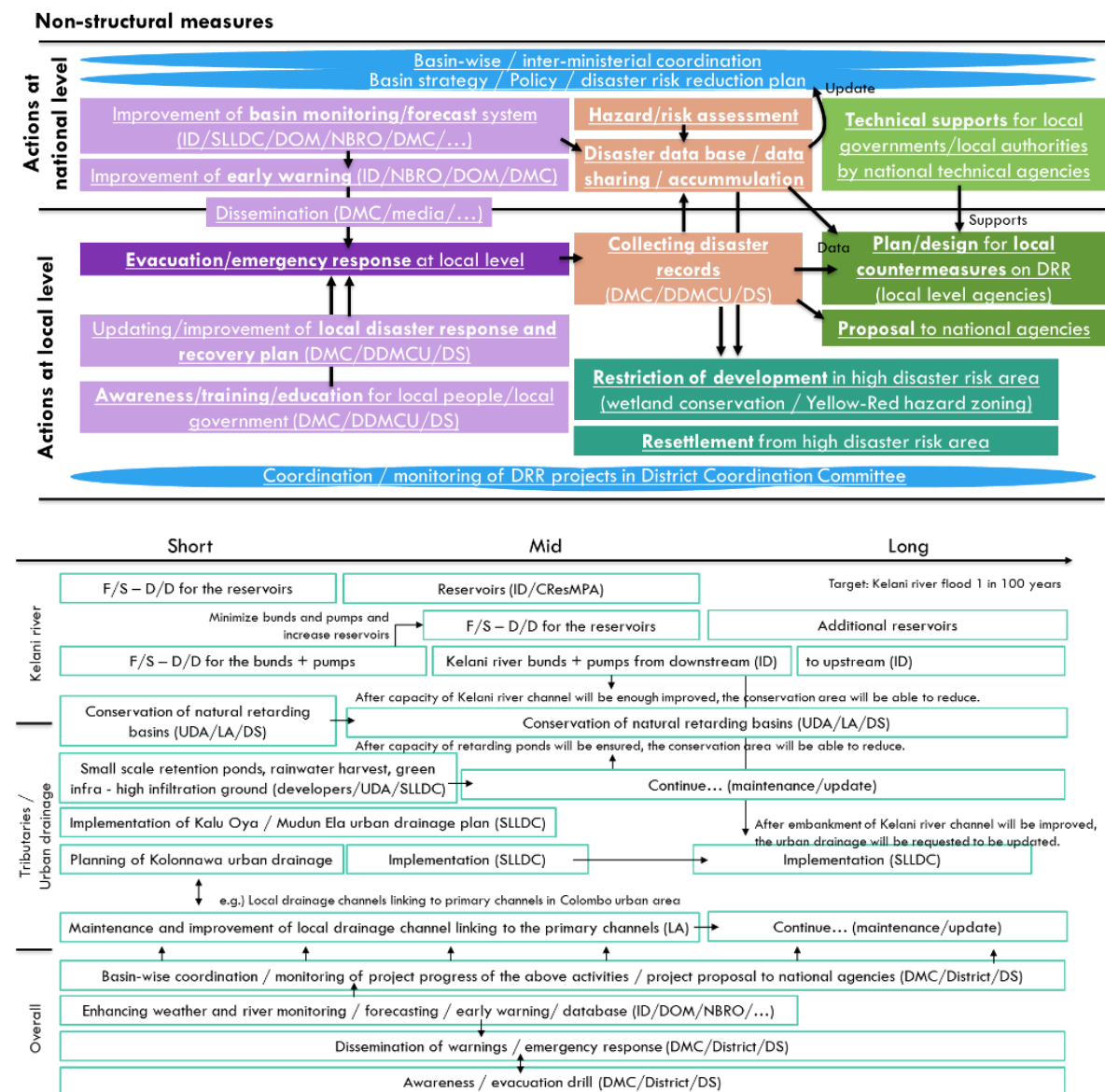


Figure 2-12 Necessary Structural and Non-structural Measures (Short, Mid and Long Term)

Source: Project Team

(2) Challenges and Actions

The TWG discussed basin strategy and necessary actions on DRR in the basin. The members of the TWG are not only ID and SLLDC, which are in charge of flood control, but also DMC, which is in charge of overall disaster management, UDA, which is in charge of development planning, and other DRR related agencies. The TWG meetings seem a good opportunity to understand the relationships between the projects of each organization and to consider the ideal combination of the measures for DRR. It is hoped that the activities of this project will lead to future basin-wide and inter-ministerial coordination, which is stipulated in the draft Flood Management Act.

2.4.4. TWG Discusses the DRR Plans at District Coordination Committee and Reflects the Contents into District Disaster Management Plan(s) (Activity 3-4)

(1) Activities

A seminar was held in November 2023, in order to share and discuss necessary DRR measures shown in the basin strategy and expected local governments/agencies' (districts, DS and LA) actions. The presentations were done by the TWG members to Colombo and Gampaha districts, DS Divisions and LAs. The participants raised the following points in the seminar.



Seminar for the Basin Strategy

- Results of discussions in the district and DS coordination committees on DRR measures are often not shared to the national level institutions. Hence, coordination and supports from the national level institutions is needed.
- In order to implement DRR projects, the local level agencies must firstly develop DRR plans based on the higher strategy and submit a project proposal. Based on the proposal, the national or local agencies in charge shall verify the projects and propose the project.
- Appropriate development control is one of the key measures which should be done by local authorities, but the rules/regulations are often not operated properly. As a result, illegal developments are not prevented. It is necessary to formulate a system for appropriate development control.
- It is known that maintenance of DRR facilities, such as local canal cleaning, is an important role of LAs, but residents immediately discard rubbish after the canal cleaning. Thus, education and awareness raising activities for residents are important.

(2) Challenges and Actions

At the beginning of the project, it was expected that the necessary countermeasure projects to be implemented by districts would be included in the district disaster management plan. However, districts are not implementation agencies of the structural countermeasures. In addition, the district disaster management plan is basically a rescue and response plan. The role of the districts on DRR is mainly coordination and monitoring projects implemented by ID, SLLDC and other agencies in the districts, and various non-structural measures (e.g. disaster response, awareness-raising activities, etc.). For this reason, the TWG will not incorporate structural countermeasure plans implemented by the technical institutes into the district disaster management plan, but the TWG shared the information on the DRR measures planned in the basin to the districts through the seminar. In addition, expected roles and efforts on DRR at local level were also discussed in the seminar. Furthermore, TWG prepared documents/presentations on the measures needed in Colombo and Gampaha districts and utilized these materials for the trainings in Output 2 and local DRR plan formulation in Output 4.

2.5. Activities Related to Output 4

2.5.1. Based on the Kelani River Basin DRR Plans Developed at Output 3, the Pilot DS Divisions and LAs Select Projects to Be Implemented by Them (Activity 4-1)

(1) Activities

The Team reviewed “Divisional Secretary Division/Local Authority Level GUIDELINE with Template for Drafting a Local Disaster Risk Reduction (DRR) Plan (2020)” which DMC developed with former JICA long-term Expert, and “Strategy for the Implementation of Local Disaster Risk Reduction Plans, Harmonizing National Strategy (DRAFT)” currently being developed by DMC, in order to understand efforts of DMC on local DRR. In addition, the Team interviewed with DDMCU to confirm the DS Divisions’ Disaster Management Plans.

The DRAFT Strategy is composed of the strategy principles, the procedures of “8 STEPS - Practical Method for Developing Local DRR Strategies/Plans (JICA, 2019)”, the composition of the committees at each level (GN/DS Division/District/Province/National), data and information sharing and early warning and incident coordinating. On the other hand, the Disaster Management Plans, which have been already prepared in the Districts, all DS Divisions and GN (Grama Niladhari) Divisions in flood-prone areas, consist of disaster emergency response plan only; these Disaster Management Plans do not include the disaster risk reduction plan and the disaster preparedness plan. LAs had not recognized the DS level Disaster Management Plans and not touched the formulation of the Plans.

As a kick-off for the Output 4 activities, DMC C/P and the Team held a study session for the pilot DS Divisions at DDMCU Colombo district and Gampaha district on the specific methodology for preparing DS Division-level DRR plan in accordance with “DS Division/ LA Level Guideline with Template for Drafting Local DRR Plan (DMC, 2020)” based on JICA’s 8 Step DRR planning method.

In November 2022, the preparation of the draft local DRR plans in pilot DSs /LAs has been conducted based on JICA’s 8-step DRR plan development methodology. Of the four pilot DSs/ LAs, the two pilot DSs/ LAs (Biyagama DS and Biyagama PS, Gampaha District; Kaduwela DS and Kaduwela MC, Colombo District) were selected for the preparation as the first phase; in the November 2023, another two pilot DSs/ LAs (Kelaniya DS and Kelaniya PS, Gampaha District; Kolonnawa DS and Kotikawatta - Mulleriyawa PS, Colombo District) local DRR plans were drafted. The information on the Kelani River Basin Strategy, which is being compiled in Output 3, was also incorporated. The proposed table of contents of the local DRR plan is as follows:



Explanation on District Disaster Management Plans (DDMCU Colombo)



Study Session at DDMCU Colombo

Table 2-14 Contents of Draft Local DRR Plans

1. General
(1) Purpose of this plan
(2) Target area and target disasters [Step 1]
2. Hazard & Risk Identification in the Target Area

- | |
|--|
| <ul style="list-style-type: none"> (1) History of disasters in Kalu River Basin (Kalutara District) [Step 1] (2) Types/ characteristics of disaster in the Target Area [Step 1 & 2] (3) Prioritized risks based on hazard and land use in the Target Area [Step 2] 3. Structural measures and relevant organizations covering the Target Area <ul style="list-style-type: none"> (1) List of relevant organizations for DRR and their responsibility [Step 3] (2) Ongoing & planned structural measures [Step 3] 4. Residual risks, required DRR countermeasures and their priority in the Target Area <ul style="list-style-type: none"> (1) Residual risks [Step 4] (2) Required DRR measures & their priority [Step 5 & 6] 5. Implementation arrangements for DRR Plan in the Target Area <ul style="list-style-type: none"> (1) Budget allocation for DRR Plan [Step 7] (2) Implementation and periodic review of DRR Plan [Step 8] |
|--|

Source: Project Team

(2) Challenges and Actions

The following issues were raised in the course of the activities: 1) Although DS Divisions have prepared disaster management plans, the content of the plans is practically only emergency response and does not include disaster risk reduction plan and disaster preparedness plan. 2) LAs, which have almost the same area of jurisdiction as DS Divisions, do not prepare disaster management plans and are unaware of the existence of the DS Division disaster management plan.

In response to this, it was confirmed that the use of the "DS Division/ LA Level Guideline with Template for Drafting Local DRR Plan (DMC, 2020)" prepared by DMC and former JICA Long-term Expert, Mr. Nagai, in accordance with the "8 STEPS - Practical Method for Developing Local DRR Strategies/ Plans (JICA, 2019)" is effective. Therefore, it was decided that the pilot DS Divisions shall develop local DRR plan in cooperation with pilot LAs based on the said Guideline. Next, DMC C/P and Japanese Expert organized the study sessions for DDMCUs and pilot DS Divisions on the specific methodology for preparing DS/ LA level local DRR plans in accordance with the said Guidelines, in order to deepen the understanding of all concerned. As a result, in all of the four pilot DS/ LAs, the DMC/DDMCU and the Team led to develop draft version of DS/LA level local DRR plans by preparing and collecting necessary materials in cooperation with DDMCUs and DS Divisions.

The selection of necessary measures and the formulation of local DRR plans were originally the responsibility of the DS Divisions, but there were difficulties due to the lack of capacity of DS staff (lack of skills and knowledge, lack of manpower due to routine work, etc.). In response to this, the DMC/DDMCU C/P took the lead (support and coordination on DRR planning). As a result, the planning work was successfully completed. The trainings for local level (DS/LA) under Output 2 were also very effective. In expanding activities beyond the pilot sites for other DS/LAs in the future, it is important for the DMC/DDMCU to take the lead in the local level by utilizing the guidelines/manuals and local DRR plan format developed by the project. Therefore, DMC/DDMCUs were involved in all activities with DS/LAs to build their capacities.

2.5.2. TWG Discusses Kelani River Basin DRR Plan at DS Division Coordination Committee and Reflects It as the Disaster Mitigation Plan Included in the Existing DS Division DRR Plan (Activity 4-2)

(1) Activities

At Biyagama DS office, with the participation of Biyagama DS, Biyagama PS, DDMCU and DMC, "Necessary DRR measures and their priorities [Steps 5 and 6]" of the local DRR Plan were discussed; at the Kaduwela DS office, the same steps 5 and 6 were discussed with the participation of Kaduwela DS, Kaduwela MC, DDMCU, and DMC. As shown in Table 2-15 and Table 2-16, this resulted in the lists of structural/non-

structural and short/long-term DRR measures to be implemented by each DS/ LA (or should be proposed for implementation to the relevant ministries), from which projects to be prioritized for implementation by each DS/ LA were selected.



Meeting with Biyagama DS/ PS (May 11)



Meeting with Kaduwela DS/ MC (May 11)

Table 2-15 List of Required DRR Measures and Their Priority for Biyagama DS/ PS

Note: Underlined are priority projects

	Short-term (within 3 years)	Mid-long term (within 10 years)
Structural measures	<u>Cleaning of small drainage canals in residential areas (by PS)</u> - Improvement of mid-scale drainage canals (by Department of Agrarian Development, Provincial Irrigation Department) - Improvement of large drainage canals (by SLLDC/ ID) <u>Rehabilitation/ construction of small sluice gates (by ID)</u> - Construction a flood gate at Aluwinna Stream in Malwana (by ID) <u>Rehabilitation of small culvert (by PS)</u> <u>Improvement of drainage of road (by RDA)</u> - Improvement of drainage at Kaduwela-Biyagama Highway Interchange (by RDA)	- Improvement of Kelani River dikes (by ID) - Rehabilitation/ construction of flood gates along Kelani River (by ID?)
Non-structural measures	<u>Land use restriction (wetland conservation) in flood prone areas (by DS)</u> - Preparation of evacuation shelters in low-risk places (by DS) - Evacuation plan and drill (by DS/DDMCU) <u>Awareness raising of residents (DS/DDMCU)</u> <u>Updating flood early warning (by ID)</u>	Development control in flood prone areas (by UDA)

Source: Project Team

Table 2-16 List of Required DRR Measures and Their Priority for Kaduwela DS/ MC

Note: Underlined are priority projects

	Short-term (within 3 years)	Mid-long term (within 10 years)
Structural measures	<u>Cleaning of small drainage canals in residential areas (by MC)</u> - Cleaning of the drainage system at Bogahawatta area - Cleaning of main drains connecting Kaduwela, Athurugiriya, Battaramulla, Arangala, Hokandara, and Malabe towns - Providing solutions to water problems in residential areas - Improvement of mid-scale drainage canals (by Department of Agrarian Development, Provincial Irrigation Department) <u>Improvement of large drainage canals (by SLLDC/ ID)</u> - Cleaning of Welivita Haldummulla Canal and Reconstruction of Anicut (by SLLDC) - Cleaning of Hettige canal from Dedigama (by ID) - Deeping and making formally of external canal which connect the Kelani River from Thundahena through Welihinda (by SLLDC) - Rehabilitation/ construction of small sluice gates (by ID) - Rehabilitation of small culvert (by MC) - Improvement of drainage of road (by RDA)	- Improvement of Kelani River dikes (by ID) - Rehabilitation/ construction of flood gates along Kelani River (by ID) - Improvement of drainage canals and pumping stations (by SLLDC/ID)
Non-structural measures	<u>Land use restriction (wetland conservation) in flood prone areas (by DS)</u> - Preparation of evacuation shelters in low-risk places (by DS) - Evacuation plan and drill (by DS/DDMCU) - Awareness raising of residents (by DS/DDMCU) - Updating flood early warning (by ID)	Development control in flood prone areas (by UDA)

Source: Project Team

At Kaduwela DS office, with the participation of Kaduwela DS, Kaduwela MC, DDMCU, and DMC, "Budget Allocation for DRR Plan [Step 7]" of the local DRR Plan was discussed. At Biyagama DS office, the same Step 7 was discussed with the participation of Biyagama DS, Biyagama PS, DDMCU, and DMC. Through a series of meetings, as shown in Table 2-17 and Table 2-18, a rough budget amount for each priority project selected through Step 6 was allocated and local DRR plans were completed.



Meeting with Kaduwela DS/ PS



Meeting with Biyagama DS/ PS

Since DS/LA cannot implement large-scale structural measures (the improvement of the drainage of road in Biyagama DS/PS and the improvement of large drainage canals in Kaduwela DS/MC) by themselves, the

DS Divisions will submit project proposals to central agencies (ID, SLLDC or RDA) through Activity [4-3] to propose the implementation of the project. Small-scale structural measures (cleaning of small drainage canals in residential areas and rehabilitation of small culverts) will be carried out by the LAs on its own using tax revenues. These projects will be reflected by the LAs in the LA's annual development plan and will be included in the annual budget document through Activity [4-4].

Table 2-17 Budget Allocation Plan for the Priority Measures for Biyagama DS / PS

Measures	Estimated budget (Rs.)	Budget securing organization	Expected funding source	Status of budget
Structural measures				
Cleaning of small drainage canals in residential areas	800,000 /yr	PS	PS tax	Preliminary stage
Rehabilitation/ construction of small sluice gates				
- Construction a flood gate at Aluwinna Stream in Malwana	(already allocated)	ID	ID	On-going. (The construction will be started soon.)
Rehabilitation of small culvert	2,000,000/yr	PS	PS tax	Preliminary stage
Improvement of drainage of road				
- Improvement of drainage at Kaduwela-Biyagama Highway Interchange	N/A	RDA	RDA	Preliminary stage
Non-structural measures				
Land use restriction (wetland conservation) in flood prone areas	None	DS	DDMCU	Preliminary stage
Awareness raising of residents	100,000/yr	DS	DDMCU	Preliminary stage
Updating flood early warning	N/A	ID	ID	Preliminary stage

Source: Project Team

Table 2-18 Budget Allocation Plan for the Priority Measures for Kaduwela DS / MC

Measures	Estimated budget (Rs.)	Budget securing organization	Expected funding source	Status of budget
Structural measures				
Cleaning of small drainage canals in residential areas				
- Cleaning of the drainage system at Bogahawatta area	10,000,000	MC	MC tax	Preliminary stage
- Cleaning of main drains connecting Kaduwela, Athurugiriya, Battaramulla, Arangala, Hokandara, and Malabe towns	5,000,000	MC	MC tax	Preliminary stage
Improvement of large drainage canals				
- Cleaning of Welivita Haldummulla Canal and Reconstruction of Anicut	N/A	SLLDC	SLLDC	Preliminary stage
- Cleaning of Hettige canal from Dedigama	N/A	ID	ID	Preliminary stage
- Deeping and making formally of external canal which connect the Kelani River from Thundahena	N/A	SLLDC	SLLDC	Preliminary stage

through Welih				
Non-structural measures				
Land use restriction (wetland conservation) in flood prone areas	None	DS	DDMCU	Preliminary stage
Awareness raising of residents	N/A	DS	DDMCU	Preliminary stage

Source: Project Team

As the second phase, at Kelaniya DS office, with the participation of Kelaniya DS/ PS, DDMCU Gampaha and DMC; and at Kolonnawa DS office, with the participation of Kolonnawa DS, Kotikawatta-Mulleriyawa PS, DDMCU Colombo and DMC, "DRR measures required and their priorities [Steps 5 and 6]" were discussed. This resulted in a list of structural/non-structural and short/long-term DRR measures that each DS/ LA should implement (or propose to the relevant ministries for implementation), from which the projects to be prioritized for the implementation by each DS/ LA were selected (Table 2-19 and Table 2-20). Next, "Budget allocation for DRR Planning [Step 7]" was discussed. This estimated the approximate budget amount for each priority project selected according to Step 6 (Table 2-21 and Table 2-22). Based on the results of the above meetings, the local DRR plans for the second phase of the two pilot DSs/ LAs were finalized and shared with DS, PS, DDMCU, and DMC.



Meeting at Kelaniya DS Office



Meeting at Kolonnawa DS Office

Table 2-19 List of Required DRR Measures and Their Priority for Kelaniya DS/ PS

Note: Underlined are priority projects

	Short-term (within 3 years)	Mid-long term (within 10 years)
Structural measures	<u>Cleaning/ construction of small drainage canals (by PS)</u> - Cleaning/ construction of small drainage canals in Kelaniya PS (by PS) - Cleaning of local drainage from the area of University of Kelaniya to wetlands (by PS) <u>Improvement of large drainage canals (by SLLDC/ ID/PRDA)</u> - Widening of drainage canal (by SLLDC) and bridge (by PRDA) to improve the drainage at Wanawasala West near Wanawasala station <u>Rehabilitation/ construction of small sluice gates (by PS)</u> <u>Rehabilitation of small culvert (by PS)</u> - Rehabilitation of two small culverts (by PS) <u>Improvement of drainage of road and surrounding area (by RDA)</u> - Rehabilitation of the culvert to improve the drainage at Sinharamulla ward near Helena school (RDA)	- Improvement of Kelani River dikes (by ID) - Rehabilitation/ construction of flood gates along Kelani River (by ID) - Improvement of drainage canals and pumping stations (by SLLDC/ID) - Construction of small drainage canals (by PS)
Non-structural measures	<u>Land use restriction in wetland conservation area and low land (by UDA/DS/SLLDC/Low Land Development Authority)</u> - Conservation of existing wetlands at the proposed wetland conservation areas near the university of Kelaniya by SLLDC/JICA (by UDA/DS/SLLDC) - Construction of perimeter road and installation of signboards around wetlands to prevent illegal occupation (by UDA/DS/SLLDC)	Development control in flood prone areas (by UDA)

	Short-term (within 3 years)	Mid-long term (within 10 years)
	2. <u>Land use restriction in riverbank area (DS/ID)</u> 3. <u>Land use restriction in flood prone areas (by PS)</u> 4. <u>Rainwater harvesting (by PS)</u> 1) Rainwater harvesting at existing ponds (by PS) 2) Rainwater harvesting at existing/ new buildings (by PS) 5. Preparation of evacuation shelters in low-risk places (by DS) 6. Resettlement of the residents living in flood prone areas to safe areas (by DS) 7. <u>Awareness raising of residents (by DS/DDMCU)</u> - Mock drill - Biannual awareness raising workshop for residents - Distribution of flood hazard map to residents 8. <u>Updating community engaged flood early warning dissemination (by ID/DMC/DS)</u>	

Source: Project Team

Table 2-20 List of Required DRR Measures and Their Priority for Kolonnawa DS and Kotikawatta-Mulleriyawa PS

Note: Underlined are priority projects

	Short-term (within 3 years)	Mid-long term (within 10 years)
Structural measures	1. <u>Cleaning/ construction of small drainage canals (by PS)</u> 2. <u>Improvement of large drainage canals (by SLLDC/ ID/PRDA)</u> 1) Installation of pumping station to improve the drainage at Sedawathatha Kalupalama in Kotuwila ward (by SLLDC) 2) Installation of pumping station to improve the drainage at Nirmawela (by SLLDC) 3. <u>Improvement of Kelani River dikes (by ID)</u> 1) Reinforcement of the Kelani River dike to prevent the erosion of Kohilawatta cemetery and Kohilawatta Road (by ID) 4. <u>Rehabilitation/ construction of small sluice gates (by PS)</u> 5. <u>Rehabilitation of small culvert (by PS)</u>	1. Improvement of Kelani River dikes (by ID) 2. Rehabilitation/ construction of flood gates along Kelani River (by ID) 3. Improvement of drainage canals and pumping stations (by SLLDC/ID) 4. Construction of small drainage canals (by PS)
Non-structural measures	1. <u>Land use restriction in wetland conservation area and low land (by UDA/DS/SLLDC/Low Land Development Authority)</u> 1) Conservation of existing wetlands and paddy field (by UDA/DS/SLLDC) 2) Construction of perimeter road and/or installation of signboards at the wetland around existing garbage dump site to prevent residential land development and landfill (by PS/DS) 2. <u>Land use restriction in riverbank area (DS/ID)</u> 3. <u>Land use restriction in flood prone areas (by PS)</u> 4. <u>Rainwater harvesting (by PS/SLLDC)</u> 1) Rainwater harvesting park at existing ponds at Gothami mawatha (by SLLDC) 2) Rainwater harvesting at existing/ new buildings (by PS) 5. Preparation of evacuation shelters in low-risk places (by DS) 6. Evacuation plan and drill (by DS/DDMCU) 7. <u>Awareness raising of residents (by DS/DDMCU)</u> 1) Mock drill 2) Biannual awareness raising workshop for residents 3) Distribution of flood hazard map to residents 8. <u>Updating community engaged flood early warning dissemination (by ID/DMC/DS)</u>	1. Development control in flood prone areas (by UDA)

Source: Project Team

Table 2-21 Budget Allocation Plan for the Priority Measures for Kelaniya DS / PS

Measures	Estimated budget (Rs.)	Budget securing organization	Expected funding source	Status of budget
Structural measures				
cleaning/ construction of small drainage canals				
- Cleaning/ construction of small drainage canals in Kelaniya PS	10,000,000	PS	PS tax	Preliminary stage
- Cleaning of local drainage from the area of University of Kelaniya to wetlands	200,000	PS	PS tax	(Work completed in 2023)
Improvement of large drainage canals				
- Widening of drainage canal (by SLLDC) and bridge (by PRDA) to improve the drainage at Wanawasala West near Wanawasala station	N/A	SLLDC/ PRDA	SLLDC/ PRDA	Preliminary stage
Rehabilitation/ construction of small sluice gates	10,000,000	PS	PS tax	Preliminary stage
Rehabilitation of small culvert				
- Rehabilitation of two small culverts	5,000,000	PS	PS tax	Preliminary stage
Improvement of drainage of road and surrounding area				
- Rehabilitation of the culvert to improve the drainage at Sinharamulla ward near Helena school	N/A	RDA	RDA	Preliminary stage
Non-structural measures				
Land use restriction in wetland conservation area and low land				-
- Conservation of existing wetlands at the proposed wetland conservation areas near the university of Kelaniya by SLLDC/JICA	N/A	UDA/DS /SLLDC		Preliminary stage
- Construction of perimeter road and installation of signboards around wetlands to prevent illegal occupation.	N/A	UDA/DS /SLLDC		Preliminary stage
Land use restriction in riverbank area	N/A	DS/ID	ID	Preliminary stage
Land use restriction in flood prone areas	N/A	PS	PS	Preliminary stage
Rainwater harvesting				
- Rainwater harvesting at existing ponds	N/A	PS	PS	Preliminary stage
- Rainwater harvesting at existing/ new buildings	N/A	PS	PS	Preliminary stage
Awareness raising of residents	100,000	DS	DDMCU	Preliminary stage
- Mock drill				
- Biannual awareness raising workshop for residents		DS	DDMCU	Preliminary stage
- Distribution of flood hazard map to residents		DS	DDMCU	Preliminary stage
Updating community engaged flood early warning dissemination	N/A	ID/DMC/DS	ID/DMC/DS	Preliminary stage

Source: Project Team

Table 2-22 Budget Allocation Plan for the Priority Measures for Kolonnawa DS and Kotikawatta-Mulleriyawa PS

Measures	Estimated budget (Rs.)	Budget securing organization	Expected funding source	Status of budget
Structural measures				
Cleaning/ construction of small drainage canals	2,000,000	PS	PS tax	Preliminary stage
Improvement of large drainage canals				
- Installation of pumping station to improve drainage at Sedawathatha Kalupalama in Kotuwila ward	N/A	SLLDC	SLLDC	Preliminary stage
- Installation of pumping station to improve drainage at Nirmawela	N/A	SLLDC	SLLDC	Preliminary stage
Improvement of Kelani River dikes				
- Reinforcement of the Kelani River dike to prevent the erosion of Kohilawatta cemetery and Kohilawatta Road	N/A	ID	ID	Preliminary stage
Rehabilitation/ construction of small sluice gates	5,000,000	PS	PS tax	Preliminary stage
Rehabilitation of small culvert	4,000,000	PS	PS tax	Preliminary stage
Non-structural measures				
Land use restriction in wetland conservation area and low land	N/A			-
- Conservation of existing wetlands	N/A	UDA/ DS/ SLLDC		Preliminary stage
- Construction of perimeter road and installation of signboards at the wetland around existing garbage dump site to prevent residential land development and landfill	N/A	PS/DS	PS/DS	Preliminary stage
Land use restriction in riverbank area	N/A	DS/ID	ID	Preliminary stage
Land use restriction in flood prone areas	N/A	PS	PS	Preliminary stage
Rainwater harvesting				
- Rainwater harvesting at existing ponds at Gothami Mawatha	N/A	SLLDC	SLLDC	Preliminary stage
- Rainwater harvesting at existing/ new buildings	N/A	PS	PS	Preliminary stage
Awareness raising of residents	100,000	DS	DDMCU	Preliminary stage
- Mock drill		DS	DDMCU	Preliminary stage
- Biannual awareness raising workshop for residents		DS	DDMCU	Preliminary stage
- Distribution of flood hazard map to residents		DS	DDMCU	Preliminary stage
Updating community engaged flood early warning dissemination	N/A	ID/ DMC/ DS	ID/ DMC/ DS	Preliminary stage

Source: Project Team

(2) Challenges and Actions

The challenge was how to involve LAs, who had no experience in disaster management planning, in the development of DS/LA level local DRR plans, which were led by DS Divisions.

In response to this challenge, joint meetings were held for the first time at the pilot DS Division offices for the pilot DS Division and pilot LA officials, DDMCU and DMC to discuss issues related to inundation area under their jurisdiction and the DRR measures to resolve these issues as one group. The LAs were more cooperative than expected in the formulation of the plan, as they have been cleaning small drainage canals to improve drainage on their own budget. There had been less cooperation between DS and LAs in the past. However, through collaborative planning, awareness of the issues that both parties face and their initiatives was promoted.

As a result, the lists of structural/non-structural and short/long-term DRR measures that each DS/ LA should implement (or propose to the central agencies for implementation) in DS/ LA level local DRR plans were compiled; priority projects were appropriately selected among them; the approximate budgets amount for each selected priority project were estimated.

2.5.3. Pilot DS Divisions Submit Proposals about the Projects Selected at [4-1] to the Relevant Line Agencies Based on the Risk Assessment Manual Developed in Activity [2-3] (Activity 4-3)

(1) Activities

1) Preparation of Draft Project Proposals by DS Divisions

By May 2023, the local DRR plans based on the 8 steps were completed for the two pilot DSs/ LAs in the first phase (Biyagama DS and Biyagama PS in Gampaha Province and Kaduwela DS and Kaduwela MC in Colombo Province) [Activity 4-2]. Among the priority projects included in the formulated local DRR plans, the DS Divisions made proposals to the responsible central ministries and agencies for the implementation of relatively large projects that should be implemented by the central government instead of DS and/or LA. For Biyagama DS, one project was selected to be proposed to RDA; for Kaduwela DS, one project was selected to be proposed to SLLDC and two projects were selected to be proposed to ID. For the selected priority projects, draft project proposal forms were prepared for the DS Divisions to submit to the ministry/ agency in charge of the projects, based on the format provided in the draft manual prepared in [Activity 2-3].



Meeting with Biyagama DS/PS and DDMCU



Meeting with Kaduwela DS/MC

In September 2023, at Biyagama DS office, with the participation of Biyagama DS, Biyagama PS, DDMCU Gampaha and DMC, the draft project proposal form prepared was discussed (Figure 2-13). Biyagama DS was requested to complete the project proposal with additional information on the draft project proposal as

needed and submit it to DDMCU for project proposal. It was confirmed that the procedure is for the project proposal to be submitted from the DS Division to the central agency (RDA) via DDMCU Gampaha, Gampaha District, and DMC.

September XX, 2023

Project Proposal Form

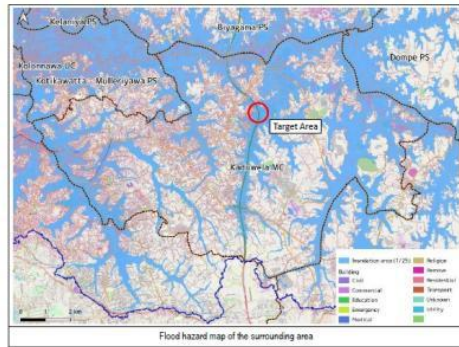
1. General

Project Name	Deepening and making formally of external canal which connect to the Kelani River, Kaduwela DS/MC
Objective	Increase the capacity of the drainage system of the area to decrease the flood inundation
Location	External canal from Thundahena through Welihinda, Kaduwela DS/MC
Proposing Agency	Kaduwela DS Division, Colombo District
Executing Agency	SLLDC
Budget Resources	SLLDC



Location of the target area

1



Flood hazard map of the surrounding area

2

2. Problem situation

During periods of heavy rainfall, the overflow of the side canal connecting to the Kelani river from Thundahena through Welihinda about twice a year since long time. Canal overflow due to blockage of water flow through Velehandiya Bunt.





3

3. Exposed physical structure / infrastructure (Beneficiaries)

Elements	Type of disaster	Quantity / extent	Remarks
Affected building	Flood	150	
Affected families	Flood	700 - 800	
Affected population	Flood	4000	
Affected houses	Flood	500	

4. Cost and schedule of the project

(1) Estimate cost of the project
Not available (DS Division would like to request SLLDC to prepare this.)

(2) Yearly expenditure schedule
Not available (DS Division would like to request SLLDC to prepare this.)

(3) Project implementation schedule
Not available (DS Division would like to request SLLDC to prepare this.)

4

Figure 2-13 Sample of a Project Proposal Form from DS Divisions to Central Agencies

Source: Project Team

In the same month, at Kaduwela DS office, with the participation of Kaduwela DS, Kaduwela MC and DMC, the draft project proposal forms prepared was discussed. Kaduwela DS was requested to complete the project proposal with additional information on the draft project proposal as needed and submit it to DDMCU Colombo for project proposal. It was confirmed that the procedure is for the project proposal to be submitted from the DS Division to the central agency (ID and SLLDC) via DDMCU, Colombo District and DMC.

In March 2024, the local DRR plans based on 8 steps were completed for the two pilot DSs/LAs in the second phase (Kelaniya DS and Kelaniya PS in Gampaha District and Kolonnawa DS and Kotikawatta-Mulleriyawa PS in Colombo District) [Activity 4-2]. Among the priority projects included in the formulated local DRR plans, the DS Division made proposals to the responsible central ministries and agencies for the implementation of relatively large projects that should be implemented by the central government instead of DS/LA. For Kelaniya DS, one project was selected to be proposed to SLLDC/ Provincial RDA (PRDA) and one project was selected to be proposed to RDA. For Kolonnawa DS, two projects were selected to be proposed to SLLDC and one project was selected to be proposed to ID. For the selected priority projects, draft project proposal forms were prepared for the DS Divisions to submit to the ministry/agency in charge of the projects, based on the format provided in the draft manual prepared in Activity 2-3.



Meeting with Kelaniya DS/PS



Meeting with Kolonnawa DS/PS

On November 29, at Kelaniya DS office, with the participation of Kelaniya DS and PS and DMC, the draft project proposal form prepared was discussed. Kelaniya DS was requested to complete the project proposal with additional information on the draft project proposal as needed and submit it to DDMCU Gampaha for the project proposal. The procedure is for the project proposal to be submitted from the DS Division to the central agency (SLLDC and RDA) via DDMCU, District, and DMC.

On December 9, at Kolonnawa DS office, with the participation of Kolonnawa DS and DMC, the draft project proposal forms prepared was discussed. These projects are relatively large priority projects that the DS Division proposes to the responsible central agencies for implementation. Kolonnawa DS was requested to complete the project proposal with additional information on the draft project proposal as needed and submit it to DDMCU for the project proposal. It was confirmed that the procedure is for the project proposal to be submitted from the DS Division to the central agency (SLLDC and ID) via DDMCU, District, and DMC.

2) Monitoring of Project Proposal by DS Divisions

Follow-up on the status of project proposals of Biyagama DS/PS and Kaduwela DS/MC was conducted from February 2024. Biyagama DS had planned to submit one project proposal to the RDA for reducing inundation at the Kaduwela-Biyagama highway interchange; however, it was confirmed that this project was proposed not in the form of a letter but a proposal from Biyagama DS to RDA at the second Divisional Coordination Committee meeting in March 2024.

For Kaduwela DS, it was confirmed that in the three cases of the project which the proposals had been

prepared for, the problems of the inundation had already been addressed by the relevant responsible agencies and there was no longer a need to send project proposals.

If there is a problem at the DS Division level, it is generally discussed first at the DS Coordination Committee, and then the responsible agency takes action; it is not common for project proposals to be directly submitted by letter from the DS level to other relevant national and agencies. This procedure is adopted even in the cases of Biyagama DS and Kaduwela DS mentioned above. Finally, the project proposal and coordination was done not in the form of a project proposal submission letter, but through the DS Coordination Committee to the relevant agencies.

Preparing project proposals in the form of a letter is an effective way to inform local needs to the relevant agencies and provide a basis for discussion, whether project proposals are done at DS Coordination Committees or by sending proposal letters to relevant national agencies through DDMCU. Thus, the effectiveness of the project proposal form and the contents required for the proposal were confirmed with the LA/DS and DDMCU/DMC through training and meetings.



Meeting with Biyagama DS/PS

(2) Challenges and Actions

In the past, DS Divisions had to make ad hoc proposals, without proper positioning of the projects in DRR plans, to the central agencies via DDMCUs for DRR projects that were difficult to implement by DS since scale of the projects were large, and that should be implemented by the central agencies.

In response to this, for the large-scale priority projects selected in the DS/LA level local DRR plans developed through Activities 4-1 and 4-2, which DS Divisions should propose to the central agencies for implementation, project proposals (draft) were prepared for DS Divisions to submit to the responsible central agencies and propose the implementation of the project, based on the format provided in the draft manual prepared in Activity 2-3.

As a result, draft project proposal forms were prepared for the DS Divisions to systematically propose large-scale priority projects to the central agencies in accordance with the DS/ LA level local DRR plans.

2.5.4. Pilot LAs Incorporate the Projects Selected at Activity [4-1] into Their Development and Annual Budget Documents Based on the Mainstreaming DRR Manual Developed at Activity [2-4] (Activity 4-4)

(1) Activities

In Biyagama DS/PS and Kaduwela DS/MC, which prepared disaster prevention plans in the first phase, the Team confirmed whether the planned LA DRR projects were reflected and included in the annual budget for 2024 and 2025. The Team mainly confirmed the following items, for which budgets were presented in the local DRR plans: 1) cleaning of drainage channels, 2) repair of drainage channels/ditches and culverts, and 3) new construction of drainage channels/ditches and culverts. The status of reflection of the DRR projects into the annual budget for 2024 and 2025 of Biyagama PS and Kaduwela MC is summarized in Table 2-23 to Table 2-27; in both LAs, the planned DRR projects which required budgets were listed in the annual budget.

In the 2024 annual budget of Biyagama PS (Table 2-23), there were some items for which the budget was secured significantly more than the expected budget listed in the disaster prevention plan, which shows the characteristics of the LA's approach to project implementation. Since LAs' DRR projects are distinctly focusing on local issues, those DRR projects are often implemented based on urgent requests from residents

or proposals from council members to improve poor drainage (cleaning and repairing drainage channels and culverts, etc.). As a result of Biyagama PS responding flexibly to these requests, more budget that exceeded the initial plan was secured. It is a good thing that LA is increasing its budget in response to local needs and flexibly implementing drainage improvements, but, at the same time, the Team discussed with C/P that it is also important to plan and secure a budget for repairs and elimination of bottlenecks from a long-term perspective, and confirmed that this is one of the purpose of the local DRR plan.

Table 2-23 Reflection of the DRR Projects on the Budget at Biyagama PS (2024)

Contents of DRR Plan (Amount)	Reflection on Annual Budget
(1) Cleaning of small drainage canals in residential areas (800,000 Rs)	The 2024 Annual Budget has already listed it as 800,000 Rs.
(2) Rehabilitation of small culverts (2,000,000 Rs)	The 2024 Annual Budget states it as 4,000,000 Rs. In fact, 89 projects are planned for 2024, with a total estimated budget of 122,000,000 Rs.

Source: Project Team

In the 2025 annual budget of Biyagama PS (Table 2-24), the DRR projects listed in the annual budget plan were all set to be implemented with budgets for implementation of the projects. In 2025, the Biyagama PS budget for drainage cleaning, which the District Coordination Committee decided that Biyagama PS should address, has been increased.

Table 2-24 Reflection of the DRR Projects on the Budget at Biyagama PS (2025)

Contents of DRR Plan (Amount)	Reflection on Annual Budget
(1) Cleaning of small drainage canals in residential areas (800,000 Rs)	The 2025 Annual Budget has already stated it as 5,000,000 Rs.
(2) Rehabilitation of small culverts (2,000,000 Rs)	The 2025 Annual Budget has already stated it as 2,500,000 Rs.

Source: Project Team

In the 2024 annual budget of Kaduwela MC (Table 2-25), the cost of cleaning drainage channels was reduced; the reason is that when the local DRR plan was formulated, the amount was estimated including the purchase of equipment necessary for maintenance, but the purchase was completed in 2023, and the funds required in 2024 were labor and fuel costs only. Kaduwela MC added a supplementary budget in 2024 due to an increase in tax revenue and carried out disaster prevention-related projects. As a result, the budget was increased for all expenses; it was possible to focus on preventive drainage channel cleaning before the rainy season. On the other hand, the budget for emergency response expenses was on a downward trend.

Table 2-25 Reflection of the DRR Projects on the Budget at Kaduwela MC (2024)

Contents of DRR Plan (Amount)	Reflection on Annual Budget
(1) Development of drainage system at Bogahawatta area (1,000,000 Rs)	The 2024 Annual Budget has stated the same amount.
(2) Cleaning of main drains connecting Kaduwela, Athurugiriya, Battaramulla, Arangala, Hokandara, and Malabe towns (5,000,000 Rs)	The 2025 Annual Budget has already stated it as 4,000,000 Rs. The amount was reduced from what was stated in the DRR plan.

Source: Project Team

In 2025 annual budget of Kaduwela MC (Table 2-26) the DRR budget further increased based on the expenditure situation in 2024.

Table 2-26 Reflection of the DRR Projects on the Budget at Kaduwela MC (2025)

Contents of DRR Plan (Amount)	Reflection on Annual Budget
(1) Development of drainage system at Bogahawatta area (1,000,000 Rs)	The 2025 Annual Budget has already stated it as 66,000,000 Rs.
(2) Cleaning of main drains connecting Kaduwela, Athurugiriya, Battaramulla, Arangala, Hokandara, and Malabe towns (5,000,000 Rs)	The 2025 Annual Budget has already stated it as 8,400,000 Rs.

Source: Project Team

The Team checked the status of the annual budget for 2025, which was prepared in December 2024, at Kotikawatta-Mulleriyawa PS and Kelaniya PS which prepared local DRR plans in the second phase. Both LAs had considered the necessary DRR project budget for 2025 and had included it in their annual budget.

At Kelaniya PS, drainage cleaning tends to account for a large proportion of the DRR projects which PS implement, but Kelaniya PS increased the budget for facility repair in 2025 (Table 2-27). This was because the deterioration of the drainage channels had become an issue and facility repair was necessary.

Table 2-27 Reflection of the DRR Projects on the Budget at Kelaniya PS (2025)

Contents of DRR Plan (Amount)	Reflection on Annual Budget
1) Cleaning/ construction of small drainage canals in Kelaniya PS (10,000,000 Rs)	The 2025 Annual Budget has stated the same amount.
2) Cleaning of local drainage from the area of University of Kelaniya to wetlands (200,000 Rs))	The 2025 Annual Budget has already stated it as 100,000 Rs.
Rehabilitation/construction of small sluice gates (10,000,000 Rs)	The 2025 Annual Budget has already stated it as 2,000,000 Rs.
Rehabilitation of small culverts (5,000,000 Rs)	The 2025 Annual Budget has already stated it as 90,000,000 Rs.

Source: Project Team

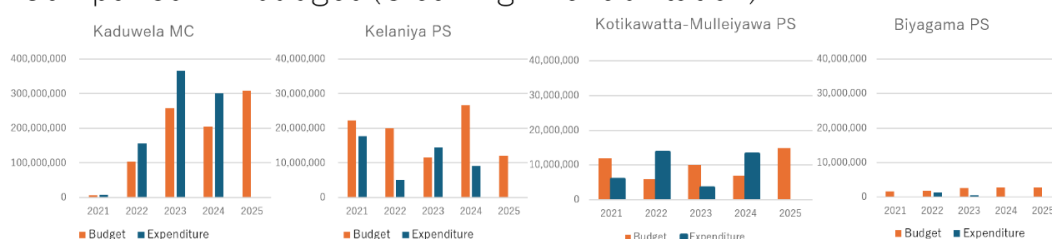
In Kotikawatta-Mulleriyawa PS, the budget items for drainage channel cleaning, which is a flood control-related budget item, and facility renovation were originally in the same item, but it was decided to set them as separate budget items (Table 2-28) from 2025. The reason for this was that there was a strong demand from residents for drainage channel cleaning; thus, Kotikawatta-Mulleriyawa PS shows competency and makes it easier to secure a budget for drainage channel cleaning by setting it as a separate budget item.

Table 2-28 Reflection of the DRR Projects on the Budget at Kotikawatta-Mulleriyawa PS (2025)

Contents of DRR Plan (Amount)	Reflection on Annual Budget
1) Cleaning/ construction of small drainage canals (2,000,000 Rs)	The 2025 Annual Budget has already stated it as total 30,000,000 Rs.
Rehabilitation/construction of small sluice gates (5,000,000 Rs)	The 2025 Annual Budget has already stated it as 10,000,000 Rs.
Rehabilitation of small culverts (4,000,000 Rs)	

Source: Project Team

Comparison in budget (Cleaning+Rehabilitation)



Comparison in budget & expenditure 2024 (Cleaning+Rehabilitation+Construction)

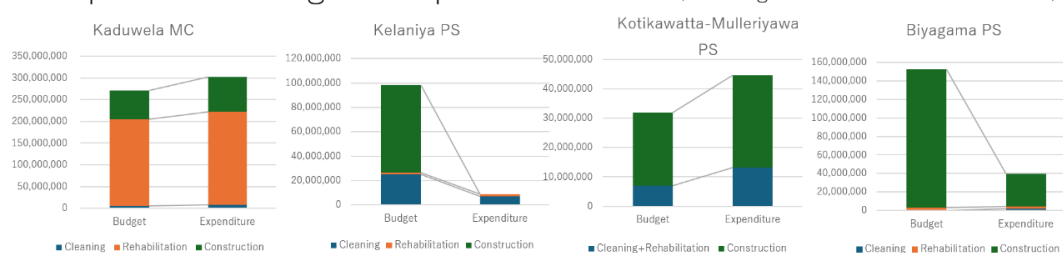


Figure 2-14 Drain/Culvert Cleaning/Repair/New Construction Budget and Expenditures in the Four Pilot Sites

Source: Project Team

Figure 2-14 shows the changes in the annual budget and expenditure for cleaning, repairing, and constructing new drainage channels and culverts in the pilot four LA over the past five years, as well as the breakdown of the budget and expenditure by type in 2024. Although each LA tends to have different budget items which are utilized for DRR projects, different focused points, and different expenditure trends, there is a trend for the DRR budgets to be generally maintained or increased from 2021 to 2025.

(2) Challenges and Actions

The challenge for LA was that they tended to respond to requests from residents and council members and implement what could be done within the annual budget, rather than implementing projects based on a plan. LAs seemed to allocate regular budgets for annual projects such as drainage cleaning and culvert repair, and implement projects in an ad-hoc manner. Therefore, it was difficult to convey the significance of this activity, but the Team explained the significance of the local DRR plan and the importance of implementing projects in a planned manner starting from the prioritized projects listed in the plan. The Team also explained the significance of reflecting the contents of the disaster prevention plan in the LA's annual budget and securing a budget. By listing the priority projects to be implemented over the next three years and creating a realistic timeline with the budget in mind, the Team believes that the current situation of ad-hoc project implementation has improved. In fact, progress has been made, such as reconsidering the high-priority DRR projects scheduled for 2025 based on the local DRR plan to reflect the actual situation.

2.5.5. TWG Monitors Project Proposal Submission and the Implementation of Them by DS Divisions and LAs Through DS Division Coordination Committee (Activity 4-5)

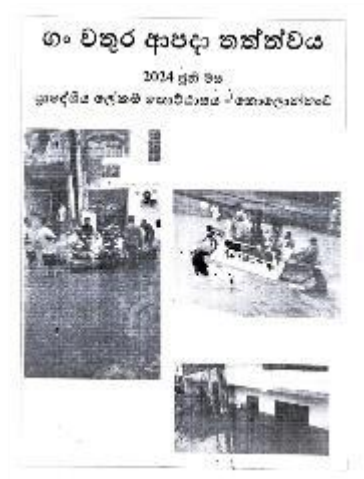
(1) Activities

1) Monitoring of Project Proposal submission by DS Divisions

As mentioned in Activity 4-3, monitoring of the project proposals of the DS Divisions has been completed for Biyagama DS and Kaduwela DS (the first phase), as well as for Kelaniya DS and Kolonnawa DS (the second phase).

After preparing local DRR plans, Kelaniya DS and Kolonnawa DS have been actively proposing projects through the experience of the Project's Disaster Risk Reduction Mainstreaming Training and the training in Japan. The situation in these DS Divisions are shown as follows.

In Kolonnawa DS, a report on the flood situation in June 2024 was submitted to Colombo District. The causes of the flood in June 2024 were summarized in the report, as independently considered by the DS. The flood situation in each GN and a project plan to resolve the problem were proposed in the report. The causes of flooding cited in the report are a lack of land for housing in response to population growth due to urbanization, which has led to development activities, including illegal construction in swamps and lowlands, and the narrowing of necessary drainage channels due to new housing construction and dense housing, which has reduced drainage capacity. In particular, illegal construction areas are densely built and do not have adequate drainage channels despite the large number of people living those areas. In addition, it was stated that people illegally dump waste in the drainage channels around those areas; illegal waste dumping has led to the drainage channels being clogged with waste and unable to drain. In response to these issues, the



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specific illegal housing areas and number of houses in each GN, as well as the necessary drainage channels, culvert repairs, and waste removal areas are listed along with the specific place names.

In Kelaniya DS, a relocation project for residents of Mewella and Pethiyagoda GN Divisions, where illegal housing is located between the Kelani River main channel and the river bund, is proposed. In this project, UDA is in charge of the resettlement of the residents; ID is the project implementer; and DS is cooperating with the national agencies. Following the floods in June 2024, the president ended up approving the project. The long-term vision of the DS Division is to leave the area as a natural park after the relocation.

2) Progress Monitoring of Implementation of the DRR Plans by LAs

On February 26 and August 16, 2024, follow-up surveys were conducted on the projects and activities listed as the LAs' responsibilities in the local DRR plans of Biyagama DS/PS and Kaduwela DS/MC, prepared in the first phase. Each project is being implemented smoothly. The projects with budgets need to be completed by December 2024, the end of the fiscal year; almost all of them were expected to be completed. On-site inspections were also conducted during monitoring. Discussions were also held on these DRR projects and activities. Both Biyagama PS and Kaduwela MC were in the process of implementing their projects. Since progress has been made in all pilot sites on the contents listed in the Action Plan of the training in Japan, the progress of the DRR projects is summarized below.

In Biyagama PS, 15 flood control-related projects were scheduled for fiscal year 2024, of which 7 had been completed. In addition, the Sojan Project, led by the Land Use Policy Planning Department (LUPPD) under the Ministry of Environment, is being implemented as a pilot project to convert old rice paddy field into agricultural land and increase the land's water absorption capacity. In addition, a project to beautify the riverside area of Biyagama South under the concept of Green Team is being carried out. Trees such as Kumbuk and Mee, which are suitable for wetlands, will be planted to develop the riverside area like a park.

Kaduwela MC's flood control-related projects for 2024 were also progressed steadily; the installation of waste traps, the establishment of a voluntary disaster prevention organization inspired by the idea of a Japanese flood defense corps and a drainage cleaning campaign in three communities inspired by the facility maintenance using volunteers at the Asaki retarding basin in Shizuoka City had been already carried out. The voluntary disaster prevention organization was established through cooperation between existing farmer groups, children's committees, and local politicians, who decided on a leader for the voluntary disaster prevention organization. Cleaning campaigns are carried out by residents themselves, with the materials needed for cleaning loaned from the MC, ID, or RDA.



Site Visit to Installed Waste Trap

As for the new construction project for drainage facilities in the Bohagawatta area of Kaduwela MC, as the MC was investigating the drainage issues in preparation for its implementation, it realized that the project was beyond the MC's capacity. Thus, on-site inspections, design and cost estimates were carried out by involving ID and SLLDC; an application of the project, including a budget, was proposed to CResMPA (project scale: 60 million rupees). It could be said that this is an ideal move; the budget request was applied to external donors in order to implement the project involving central agencies (ID and SLLDC).

3) Monitoring and Preparation of Detailed Project Location Maps of the Local DRR Plans

During the local project monitoring, the locations of the DRR project progressed/planned were plotted on a hazard map. This work was requested to LAs and DSs in August 2024, and confirmed with each DS/LA in October. In the meetings with LA/DS, the relationship between the local DRR projects

implemented/planned by LAs, projects which should be proposed to national agencies and projects implemented/planned by the national agencies was discussed. During the discussions, it was confirmed that the selection and implementation of the local DRR projects from a basin-wide perspective are becoming established in the pilot sites, such as the assumption of priorities considering the frequency of flooding, the progress of urban development and the impact of traffic blockage, and the project proposal combining upstream wetland conservation and downstream drainage improvement. Based on the location map of the local DRR projects, the relationship between the flood control measures implemented/planned by the central government and the projects at LA/DS level was organized and shared with the relevant agencies.

(2) Challenges and Actions

When conducting the local project monitoring, the project information initially submitted by LA/DS was just a list in letters. Hence, it was difficult to understand which flood-prone area is the target of the project, and how it relates to national-level projects. In order to make it easier to spatially understand the effects and the relationship of the local DRR projects with other projects, and their priorities, the Team plotted the local DRR projects implemented/planned in 2024 and 2025 on the map with flood hazard areas and infrastructures. The map has helped to further understand the importance of project combination/collaboration and prioritization of projects.

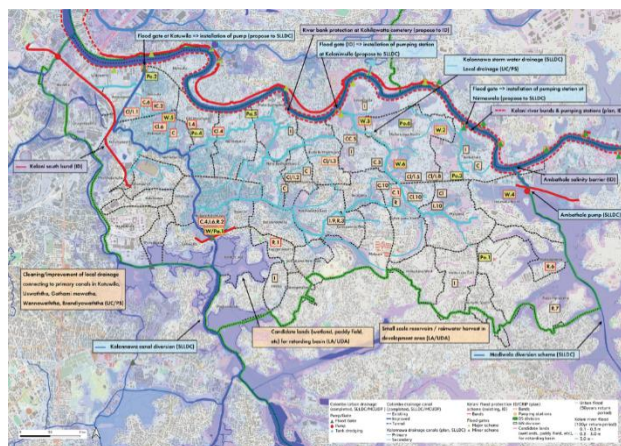


Figure 2-15 Location Map of Planned DRR Projects

(KolonnawaDS/Kotikawatta-Mulleriyawa PS)
Source: Project Team

Chapter 3 Challenges, Actions and Lessons Learned

3.1. Travel Restriction due to COVID-19 Pandemic

(1) Challenges

As shown in Chapter 1, the Project was planned to start activities in Sri Lanka in March 2020, but due to the COVID-19 pandemic started at the same time. The activities were postponed to November 2021 because the travel of the Team has been restricted. During this period, the Team continued to collect information to understand the administrative process for Output 1, and collected and analyzed information on existing projects related to the basin strategy for Output 3. However, since the project kick-off has not yet taken place, and project C/Ps were not assigned. It was difficult to prepare for the Project launching through obtaining sufficient information without the project C/Ps.

(2) Actions and Lessons Learned

Under the above circumstances, the Team have been communicating with the director of the Disaster Mitigation Research and Development Division of DMC remotely, who was expected to be assigned as PM of the Project to exchange the updated information regarding situation of the COVID-19 infection in Sri Lanka, and discussed about possible timing of the starting travel. In addition, during remote activities, regular team meetings have been held, with the participation of a former JICA long-term expert in the Ministry of Disaster Management, the JICA office and local interpreters who are familiar with Sri Lanka's disaster management system. In particular, the Team held a study session on administrative processes in Sri Lanka, which knowledge about the structure of local governance and its relationship with the central government greatly contributed to the activities after the resumption of travel.

3.2. Strengthen of Relationship between National Technical Agencies and Local Authorities

(1) Challenges

There are two administration lines in Sri Lanka: the national administration line and the local administration line; at the local level, there are DS Divisions, which function as a local agency of the national organizations, and LAs, which are the basic authorities at local level. Regarding flood control and urban drainage, LAs are the entities responsible for implementing local DRR measures such as secondary and tertiary drainage channel development. Those DRR projects are implemented with their own budgets (tax revenues and government subsidies). On the other hand, DS Divisions are not project actors but play the role of picking up local project needs and proposing them to national administration line agencies. The main actors of flood control and urban drainage projects in the national administrative line are the ID and SLLDC.

DSs and LAs should essentially share information, coordinate each other and collaborate when local DRR projects are implemented since each DS and LA has almost overlapping administrative boundaries. However, the relationship between DS/LA was weak. Moreover, the relationship between the central technical agencies and LAs was also not strong except large LAs. Even if the support and information provided by national technical agencies to LAs are useful, there was little collaboration.

(2) Actions and Lessons Learned

Despite the weak relationship between the national and local administration lines, the Project invited both DSs and LAs to the trainings and meetings to work and discuss DRR measures in their local area at one table, aiming to strengthen cooperation between DS/LA. The trainings on the legislation and governance in Sri

Lanka were also conducted to improve the understanding of DS/LA officials on the intricate scope of responsibilities of the agencies in both lines. One local DRR plan for the pilot site was developed through the participation of DS/LA and the DMC/DDMCU. As a result, local DRR plans providing overall picture of DRR projects in the pilot sites were developed.

The relationship between the national technical agencies (TWG members) and the LAs was strengthened through the following activities: 1) giving lecturers from TWG members to DS/LA in the DRR training sessions, 2) participation of TWG members to meetings/discussions to provide information and policies on DRR measures to DS/LA; these are valuable opportunities to hear about basin-based initiatives and future plans from TWG members, as there are few opportunities for DS/LA to have discussion with central government agencies. It is hoped that these activities will evolve into the national-local coordination and collaboration through the basin coordination committees provided in the draft Flood Management Act, in the future.

3.3. Resigning of C/P Personnel, Inputs to Newly Assigned C/Ps and Contribution of Sub-C/P

(1) Challenges

Sri Lanka has faced an economic crisis in March 2022. Due to the economic crisis, many Sri Lankan government staffs resigned. All four Assistant Directors assigned as the C/Ps had left their jobs or transferred, once. For a long moment, the number of C/Ps assigned by the DMC remained extremely low; the shortage of number of C/Ps caused severe difficulty on project management.

(2) Actions and Lessons Learned

New Assistant Directors were recruited in the second half of 2024. The newly recruited C/Ps were actively encouraged to participate in project activities to deepen the C/Ps' understanding of the project at an early stage. On the other hand, simple administrative tasks such as writing and sending letters related to project activities were supported as much as possible by the project assistant, so that the C/Ps could concentrate on their activities. The C/Ps were able to manage the project with limited human resources.

The expert team also discussed the importance of mainstreaming DRR with the new DMC DG assigned in March 2024. The new DG participated in the second training in Japan as the leader of the trainees. The training was a good opportunity for the DG to understand the importance of investment for DRR and local DRR plans. The DG's understanding of investment for DRR and mainstreaming DRR is an important factor. Hence, the communications and discussions with the DG, including the training in Japan, was important. The DG has led the discussions well in the project meetings as well as participated to the Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR 2024) as a representative of Sri Lanka; DG addressed the importance of integrating all development projects and DRR. The understanding of the head of DMC on the investment for DRR is very effective not only in project management but also in mainstreaming DRR in Sri Lanka.

Moreover, the effective functioning of TWG members greatly contributed to the continuation of the Project activities. Almost all TWG members participated in the first C/P training in Japan, and although they are from other organizations, they have had a very high ownership of the Project and are highly aware of the Project objective (mainstreaming DRR in basin-based strategy). The TWG members always participated in training and workshops for LAs, and provided advice to them as appropriate based on their respective specialized knowledge and jurisdiction. The Team recognizes that the continuation of these activities by different central agencies under the leadership of the DMC is the first step toward mainstreaming DRR. The strengthening of links between DMC and national technical agencies through the TWG is one of the key

project outcomes, as it is also a milestone for the inter-organization coordination committee and basin coordination committees provided in the draft Flood Management Act.

3.4. Delay of Basin Investment Plan

(1) Challenges

The CRIP basin investment plan consists of countermeasures for 50-year return period floods (continuous levees and ancillary facilities such as pumping stations in the downstream area) and for 100-year return period floods (multi-purpose reservoirs in the upstream area, which reduce 100-year return period flood peak discharge to 50-years). These countermeasures were scheduled to be implemented by CResMPA, but due to the economic crisis, embankment in the downstream area is not expected to be implemented for the time being. Since the peak-cutting effect of the planned reservoirs is small, it has been decided that no drastic reduction in the risk of flooding on the main river of the Kelani river will be achieved even if the reservoirs will be constructed in near future.

In this project, TWG members discussed the progress of CResMPA, which was scheduled to be implemented in parallel to this project, and the process of improving flood control through each measure of the basin investment plan, while also discussing measures that LAs should implement to reduce residual risks; the study and formulation of plans were expected to be important activities. Therefore, the delays in CResMPA and the basin investment plan itself had a significant impact on the activities of this project.

(2) Actions and Lessons Learned

Until drastic flood countermeasures are taken, the risk of flooding in the current floodplain will remain, so the river basin strategy has been incorporated to urgently preserve wetlands and farmland along the main river and tributaries. Preservation of wetlands and farmland located on floodplains not only prevents the accumulation of assets in high-hazard areas, but also prevents an increase in flood risk in downstream areas by maintaining the retarding effect of existing floodplains. Therefore, in situations where the implementation of flood countermeasures is not expected near future, priority of the wetland/farmland conservation is raised, so the Team decided to emphasize this matter in the basin strategy. In addition, in areas where main river levees already exist, although the sections are short, by taking advantage of them and promoting inland flood countermeasures on a priority basis, disaster risk can be effectively reduced; the Team decided to pick it up in the basin strategy.

3.5. Standardization of C/P Training in Japan

(1) Challenges

There are the following issues in the planning and implementation of training programs in the field of flood control in Japan.

- 1) The natural and social conditions, such as climate, topography and geology, in each country where JICA implements its flood control projects are very different, and the challenges they face are also very diverse. On the other hand, flood control in Japan has a long history, and there are no small differences in the basic concepts and policies for flood control in each basin, which are implemented based on the natural and social conditions that differ from basin to basin. Therefore, it was not easy to select a basin to introduce as a case study to meet the needs of the government agencies of developing countries to be trained, and sometimes inconsistencies occurred.

- 2) In order to introduce a river basin as a case study in Japan, it is necessary to seek the cooperation of river administrators, local governments, and other organizations in charge of disaster prevention that have jurisdiction over the basin. However, it requires a great deal of effort for the training provider (client/contractor) and the agencies in charge of the basin to agree on the reasons for introducing case studies and the characteristics of flood control that should be introduced.

To solve these issues, it is necessary to organize the characteristics of each basin in Japan and provide materials that explain the reasons and key points to be introduced in the training in an easy-to-understand manner to river managers and local governments.

(2) Actions and Lessons Learned

Since it is difficult to collect all this information and prepare materials for all the numerous river basins at once, we decided to prepare materials for the three rivers that were presented as case studies at the first training session in Japan for this project: the Tsurumi River, the Ota River, and the Kako River. Since the key point of this project is "basin strategy", we decided to focus on flood control strategies that follow the trend of "comprehensive flood control" implemented in Japan since the 1970s, and selected the Tsurumi River and the Kako River. The Ota River was selected as an excellent example of flood control measures that have been implemented since the modern era, and its characteristics were summarized. It is expected that the use of these materials will simplify the process of unifying the training objectives between the training implementer and the training consignee.

Chapter 4 Achievement of the Project

4.1. Achievement of Outputs

4.1.1. Achievement of Output 1

The purpose of the Output 1 is to identify bottlenecks in order to promote mainstreaming DRR by extracting issues on administrative process, institutional structure, development project formulation, budget allocation and coordination mechanism. The identified challenges were considered to conduct the activities in the Outputs 2-4 and to plan expanding the mainstreaming DRR to other basins. TWG was established with the participation of national agencies involved in DRR; TWG provided a platform for information sharing and discussion on the DRR projects and plans of the agencies, which had not been well understood by each other.

During the first stage of the Project, the findings of the study on administration processes in Sri Lanka for DRR were compiled as an administrative process report; during the second stage of the Project, the implementation plan and practical guidelines were prepared for the expansion of the project results to other basins. In order to promote DRR investment at local level and coordination within the basin, it is essential for the TWG to play a leading role in providing guidance and coordination to DS/LAs on disaster risk assessment and necessary measures. The way to promote mainstreaming DRR at local level was discussed and compiled into the implantation plan and practical guideline with the DMC and TWG members.

Table 4-1 Achievement of Output 1

Output	Indicator	Achievement	Challenges
1. A mechanism and a roadmap to promote basin-wide coordination and mainstream DRR are developed.	1-1. TOR of the TWG is developed. 1-2. A review report on the coordination mechanisms, practices and other-related information is prepared. 1-3. An implementation plan of the mechanism and a practical guideline are developed and approved by NDMC	1-1. TWG is substantially leading the activities based on the developed TOR (100%). 1-2. Administrative process report was finalized (100%). 1-3. Implantation plan and practical guideline were developed; consensus on this plan was made at the final JCC (100%).	It is recommended to set up a framework to continue the TWG activity after the Project.

Source: Project Team

4.1.2. Achievement of Output 2

Regarding the mainstreaming DRR at the national level, the Project formulated disaster risk assessment and mainstreaming DRR manuals for NPD project submission format and disseminated it to the line ministries, so that appropriate project applications will be made with DRR consideration. Coincidentally, another JICA technical cooperation project is underway with NPD to support for updating the project submission formats; by collaborating each other, the manual would be highly effective. Based on the developed manual, the Project organized seminars inviting all line ministries to disseminate the manual; the manual was finalized considering the feed-back from the line ministries. Based on this manual, the NPD project application format was updated in March 2024, The contents of the manual will be integrated into the operation manual for NPD project submission format in the future; the outputs of the Project must be more widely put into practice.

Regarding the training on mainstreaming DRR for the DS Divisions / LAs, the trainings were firstly organized and conducted; the knowledge and lessons learned through the trainings were compiled into the

training manual. The training materials and manuals were developed by working together with TWG members. The trainings were conducted for all DS/LAs in the Kelani River basin, both downstream and upstream. The manual was finalized following feedback.

Table 4-2 Achievement of Output 2

Output	Indicator	Achievement	Challenges
2. A system is established to incorporate DRR into development projects by relevant agencies, DS Divisions and LAs at national and local levels.	▪ 2-1. A DRA and mainstreaming manual is developed. ▪ 2-2. A manual on DRR project submission for DS Divisions is developed and finalized after trials at pilot sites. ▪ 2-3. A manual on the mainstreaming DRR for LAs is developed and finalized after trials at pilot sites. ▪ 2-4. Training is conducted for relevant agencies and all DS Divisions and LAs in the Kelani river basin.	▪ 2-1. A manual for risk assessment and DRR mainstreaming for NPD submission format was finalized. (100%). ▪ 2-2,3. A manual for DS Divisions / LAs were completed. It was finalized through the trainings in the next phase (100%). ▪ 2-4. Trainings for the four pilot sites were completed. In the Stage 2, trainings were held for other DS Divisions/LAs (100%).	▪ NPD plans to incorporate the outcome of the Project into the NPD operation manual in accordance with the NPD format updated in March 2024. Finalization of the manual will be done in early 2025.

Source: Project Team

4.1.3. Achievement of Output 3

The Project developed the local DRR plans for DS Divisions based on the basin strategy which is an umbrella policy for the DRR in the basin. The basin strategy was developed by not using hydrological analysis, but basically using the existing data of World Bank - CRIP and existing projects of SLLDC. The strategy includes the necessary countermeasures in upstream, middle stream and downstream considering the flood risk distribution and the concentration of assets. Furthermore, for the TWG members, the knowledge gained from the 1st C/P training in Japan was very important to discuss the basin strategy, so it can be said that the activities for formulating the strategy were greatly accelerated after the training.

Regarding reflection in the District DRR plan, as mentioned in Chapter 2, since there are no measures that the Districts directly implement (Districts only coordinate DS Divisions and projects by central government), it was decided to list up the measures that should be done by ID, SLLDC and UDA in the areas of District. Thus, the District disaster DRR plan will not be updated in the Projects. Information on flood hazards/risks, central agencies' action plans, residual risks, and etc. was compiled and linked to the Output 4 activities (development of local DRR plans and project proposals) as reference information for LAs, which implement DRR projects at the local level, and DSs, which propose local DRR projects to the central technical agencies through districts.

Table 4-3 Achievement of Output 3

Output	Indicator	Achievement	Challenges
3. Basin strategy and local DRR plans are developed in consideration of disaster risks in the Kelani River Basin.	▪ 3-1. Evaluation is conducted on the short-term, mid-term and long-term disaster risks in the Kelani River Basin and estimated damages and losses	▪ 3-1. Risk analysis and damage assessment were carried out based on the existing report of CRIP and SLLDC (100%). ▪ 3-2. TWG summarized	▪ Legal and institutional framework to promote basin strategy and Enactment of the Flood Management Act are necessary. ▪ Since there is no

Output	Indicator	Achievement	Challenges
	3-2. The Kelani river-basin short-term, mid-term and long-term DRR plans are developed 3-3. District Disaster Management Plans are enhanced with the contents of Kelani river-basin DRR strategies	the list of measures and shared with the stakeholders in the Kelani River Basin (100%). 3-3. N/A.	measures directly implemented by Districts, each measure were summarized, and responsible agencies were clarified in the strategy.

Source: Project Team

4.1.4. Achievement of Output 4

The four pilot sites were selected; 2 sites from Colombo District and 2 sites from Gampaha District. In the first stage of the Project, one site each (Kaduvela DS/MC and Biyagama DS/PS) were the target area for the local DRR formulation; in the second stage, (Kolonnawa DS / Kotikawatta-Mulleriyawa PS and Kelaniya DS/PS) were the target area. The DRR planning was always carried out jointly by the DS Division and LA. There had been little collaboration between DS Division and LA before the Project, so it was an important outcome that the two authorities became aware of the issues and initiatives they were facing.

As the DS Division itself is not a project implementation body in principle and has almost no independent budget, many of the initiatives indicated in the basin strategy were carried out in the form of project proposals to central technical agencies. On the other hand, although LA is small in scale, it is able to carry out projects with its own budget, and LA's annual budget in the plan includes measures such as cleaning drainage channels and repairing culverts. These were incorporated into the annual budget document for 2024 and 2025, and implemented.

Table 4-4 Achievement of Output 4

Output	Indicator	Achievement	Challenges
4. Mainstreaming DRR into development processes at local pilot areas in the Kelani River Basin.	4-1. Division Disaster Management Plans are enhanced with the contents of Kelani river-basin DRR plans 4-2. % of pilot DS Divisions that submit proposals of the projects in the DRR plans with the results of DRA (Target: 100%) 4-3. % of pilot LAs that incorporate DRR projects into their development and/or annual budget documents (Target: 100%)	4-1. Local DRR plans at all four pilot sites were formulated (100%). 4-2. Project proposal by DS Division has done through DCC and other meetings, not in documents (100%). 4-3. Measures that shall be taken by LA have already involved in the annual budget (100%).	Though the activities related to Output 1, it was confirmed that DS Division itself is not the implementation body for the project. So, DS Division will propose the project to the central agencies.

Source: Project Team

4.2. Achievement of the Project Purpose

The verifiable indicators of “Project Purpose” are specified as the number of proposed and implemented projects at national and local levels.

Regarding the number of proposed projects at national level, in the 3rd JCC in March 2023, NPD suggested that currently the substantial new project applications are severely restricted under the economic crisis, so the indicator cannot be determined at this moment. In addition, the NPD project submission format is expected to be revised again in 2023. Therefore, the discussion was made in the 4th JCC in May 2024 and concluded “Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20% of submitted projects)” as the verifiable indicator of the project purpose. However, the number of projects were not able to be quantified because the old (not updated) NPD format was utilized in 2024. Thus, the 5th JCC concluded that the indicator will be quantified after the updated format will be put into operation in 2025.

Regarding the number of implemented projects by LAs, the proposed projects in local DRR plans had been reflected in the FY (Financial Year) 2024 budget document and implemented at the two pilot LAs which had formulated DRR plans in the Stage 1 of the Project. Even in the other two pilot LAs, the proposed projects were reflected in the FY2025 budget document and will be implemented.

Table 4-5 Achievement on the Project Purpose

Project Purpose	Indicator	Achievement	Challenges
A mechanism to promote mainstreaming DRR and DRR investments is enhanced and piloted in Kelani River basin through establishing local DRR plans.	1. Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20%) 2. Out of DRR projects in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: 50%)	1. The number of the project submitted to NPD in 2024 was not able to be confirmed. The number will be quantified after the updated NPD format will be in operation. 2. The planned DRR projects in the two pilot LAs were included in the annual budget document in 2024 and implemented. In 2025, the DRR projects will be implemented in the four pilot LAs (100%).	Due to the economic crisis, project submission has been restricted in 2023. At the 3rd JCC, it was concluded that the indicator should be verified in the next JCC. At the 4th JCC, the indicator was decided as 20% of submitted project.

Source: Project Team

Chapter 5 Recommendation to Achieve Overall Goal

5.1. Overall Goal and Indicators

The overall goal and its indicators (Table 5-1) are determined to assess the sustained achievement of the project outcomes by the Sri Lankan side and their horizontal expansion beyond the pilot sites.

DMC is proactive in all project activities and constantly taking new initiatives to promote mainstreaming DRR, not only within the project.

Table 5-1 Verifiable Indicators of the Overall Goal

Overall goal	Verifiable indicators
Mainstreaming Disaster Risk Reduction (DRR) and DRR investments are promoted in Sri Lanka based on the mechanism established by the Project.	1. Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding ^(*). 2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: 4 LAs) 3. The amount of DRR investment is increased ^(*) *1: "Number of projects" is quantified when updated Project Submission Format is fully operational. *2: The amount here is the total amount inserted under "DRR" of item 16 of NPD format. This indicator is assessed only if the data is available.

Source: Project Team

5.2. Recommendations on Output 1 Activities

The most significant challenge in the horizontal expansion of the activities related to mainstreaming DRR addressed in this project is the lack of a legally defined administrative framework for basin-wide/inter-organizational coordination and information sharing in the country of Sri Lanka. The new Flood Management Act (draft), which is still pending to be enacted, provides National Steering Committee for Flood Risk Management, Inter-Organizational Flood Risk Management Committee (with the participation of relevant ministries at the national level) and River Basin Flood Committees (with the participation of relevant agencies in the basin), but their enactment and promulgation is still not expected. The act should be passed near future.

In this context, TWG of the project, consisting of national technical agencies in the sectors of disaster management, irrigation, urban drainage, roads, urban planning, etc., has been working as such committees. It is hoped that the DMC will continue to lead the TWG and expand its activities to other DS/LAs and other basins. In particular, the first step towards mainstreaming DRR is to link national technical agencies, such as the ID and SLLDC, with LAs, which implement local DRR projects, by strengthening the cooperation framework, which is poor at present. As a result, understanding of local level agencies on disaster risks and necessary DRR measures must be deepened. It is desired that the cooperation framework between national and local agencies will be strengthened in line with the project expansion plan and the practical guideline developed by the project.

DMC is seeking to implement inter-ministerial/basin-wide coordination under the National Disaster Management Act, which is the basis for the establishment of DMC, even before the enactment of the new Flood Management Act. The role of the DMC/DDMCU as a coordinating body is important, as there were cases of lack of coordination in the pilot sites, such as overlapping DS/LAs' road and drainage channel repairs. Another example of lack of coordination by national agencies was the case of inundation at the drainage destination of a SLLDC-managed pumping station due to damage to a flood gate managed by ID, which was located at the drainage channel of the pumping station; the flood gate has been repaired. The accumulation of the need for a coordination mechanism and appeals based on these actual cases are necessary for the

continuation and expansion of future activities.

Furthermore, when the Sri Lankan Government considered improving the drainage system in Kolonnawa following the 2024 floods, the DMC made a proposal based on the local DRR plan, the DRR project list and disaster hazard and risk information prepared by the project; then, DMC obtained a budget from the Government. In this way, if DS/LA's local DRR plans can be linked to the national government budget, it will be possible to continue and expand activities.

5.3. Recommendations on Output 2 Activities

Regarding the NPD project submission format, a section on mainstreaming DRR was incorporated into the NPD format in collaboration with the JICA technical cooperation project being implemented by the NPD. The operational manual for NPD project submission format reflects the contents of the risk assessment and mainstreaming DRR manual prepared by the Project; a framework is in place for mainstreaming DRR to be incorporated into the national level project submission.

After the update NPD format will be in operation, the NPD will need to review and evaluate the detail of actual applications in order to ensure the effectiveness of the DRR items in the format. Since the items of mainstreaming DRR has been officially adopted as a part of the project submission format, it is unlikely that applicant organizations will ignore this item in their applications. However, the accuracy and appropriateness of the content of the application needs to be monitored. Although the review of actual applications is basically carried out by the NPD, it is necessary to consider following matters 1) optimize (simplify) the review process according to the scale of the project, and 2) obtain technical support from TWG members, considering the human resources and technical limitation of the NPD with hundreds of annual project submission.

The updated NPD project submission format now includes budgets for disaster prevention and disaster mitigation in each development project budget. In other words, the DRR investment can be quantified in the NPD format even for development projects for elevation of roads and strengthening of the weather resistance of social infrastructure; the NPD format could be utilized to determine the whole amount of DRR investment in public work projects, in theory. It is expected that a database of project submission formats will be developed to enable quantitative and objective compilation and analysis on DRR investment.

5.4. Recommendations on Output 3 Activities

Related to Output 1, the lack of a legal framework for inter-organizational/basin-wide coordination is a challenge. Currently, there are District and DS Coordination Committees for coordination and consultation on projects implemented by each agency, but these committees are for discussions on individual projects to be implemented in the District or DS division, and not for discussions on the ideal state of the basin and overall policy direction. In this project, such discussions were held in TWG; once the new Flood Management Act will be passed, such discussions can be held by the coordinating committees which are provided by the Act and can be strongly involved in DRR project planning by the relevant ministries and LAs. It is hoped that the Flood Management Act will be passed as soon as possible.

At the beginning of the project, it was planned that the DRR measures to be implemented by the local level would be considered according to their capacity, based on the national level investment plan of Kelani River flood control (construction of the Kelani River embankments and the multi-purpose reservoirs in the upstream, which were planned to be implemented by World Bank CResMPA). However, the investment plan has been suspended. Thus, the local DRR plan should be reviewed when the investment plan will be implemented in future.

Regarding the local DRR plan based on the basin strategy, the large gap between the scale of the Kelani River basin and the structure of local projects implemented by LA makes it difficult to say that the basin strategy is directly and systematically linked to the individual local DRR projects. By targeting small river basins which have proper scale to the administrative boundaries and jurisdiction of LAs, the importance of the basin strategy can be more clearly highlighted. Moreover, the scopes of jurisdictions and roles of the national and local level agencies can be clarified, and more effective links between the basin strategy and local DRR plans can be established.

5.5. Recommendations on Output 4 Activities

The Objectively Verifiable Indicators 2 of the Overall Goal is “Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: 4 LAs)”. To accomplish this, the LAs selected based on the following procedure should develop their local DRR plans in collaboration with the DSs, and the results should be reflected in their annual budget documents. Through the planning process in collaboration with LAs and DSs, not only they can avoid duplication of projects, but they can also become aware of each other's issues and initiatives.

- 1) Through the coordination of DMC, four LAs and four DSs along the Kelani River other than the pilot LAs/ DSs will be selected (two LAs/DSs from Gampaha District and two LAs/DSs from Colombo District are preferred).
- 2) Through the coordination of the DMC, the selected four LAs/DSs, the 4 Pilot DSs/ LAs of this project (as lecturers), and DDMCUs will meet to hold a study session on the Kelani River basin strategy and local DRR plan formulation methodology.
- 3) Based on the results, the selected four LAs/DSs will develop their local DRR plans. The local DRR plans already developed by the Pilot DSs/LAs will be used as templates.
- 4) The priority projects selected by the four LAs/DSs through the development of their local DRR plans, which should be implemented by the LAs based on LA tax revenues, will be reflected by the LAs in their annual budget documents.

As for 2) and 3), the activities are the horizontal expansion of the activities implemented in the pilot sites together with DMC and DDMCU in this project. The C/P still has the know-how from that project; the manuals and local DRR plan templates developed in this project are also available, so the difficulty of the activities seems low. However, the lack of manpower in DMC/DDMCU leading the activities is a major challenge; number of DMC/DDMCU officers needs to be increased.

Judging from the situation in 2024 and 2025 budget in the pilot LAs, the reflection and implementation of priority projects has been carried out without any particular problems, as long as the budget for DRR projects does not significantly exceed annual DRR budget set aside by the LA. In order to induce more investment for DRR, it is desirable to have a mechanism to provide incentives such as provincial and national subsidies and joint implementation of local DRR projects listed in the local DRR plans.

ANNEX

Project Design Matrix (PDM)

Project Design Matrix

Ver.4, Dated January 15, 2025

Project Title: The Project for Mainstreaming Disaster Risk Reduction through establishing local DRR plans based on River Basin Strategy in Sri Lanka

Implementing Agency: Disaster Management Centre (DMC)

Target Group: Officials of DMC and development partner agencies

Period of Project: April 2020 to March 2025, Project Site: Colomb

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal	1. Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding. ^{(*)1} 2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: 4 LAs) 3. The amount of DRR investment is increased ^{(*)2}	'- Public Investment Program (PIP) report - DMC's report, sectoral plans - Annual budget documents of LAs - Project proposals - PIP Database (if available) - Interviews	
Mainstreaming Disaster Risk Reduction (DRR) and DRR investments are promoted in Sri Lanka based on the mechanism established by the Project.			
Project Purpose	1. Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20% of submitted projects) 2. Out of DRR projects ^{(*)3} in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: 50%)	'- PIP report, DMC's report, sectoral plans - Interviews - Observation	
A mechanism to promote mainstreaming DRR and DRR investments is enhanced and piloted in Kelani River basin through establishing local DRR plans.			
Outputs	1-1. TOR of the TWG is developed 1-2. A review report on the coordination mechanisms, practices and other-related information is prepared 1-3. An implementation plan of the mechanism and a practical guideline are developed and approved by NDMC	'- TOR of the TWG - A review report - An implementation plan - A guideline on the project outputs - Meeting minutes	
1. A mechanism and a roadmap to promote basin-wide coordination and mainstream DRR are developed.			
2. A system is established to incorporate DRR into development projects by relevant agencies, DS Divisions and LAs at national and local levels.	2-1. A DRA and mainstreaming manual is developed 2-2. A manual on DRR project submission for DS Divisions is developed and finalized after trials at pilot sites 2-3. A manual on the mainstreaming DRR for LAs is developed and finalized after trials at pilot sites 2-4. Training is conducted for relevant agencies and all DS Divisions and LAs in the Kelani river basin.	'- A DRA and mainstreaming manual - a DRR project submission manual - a mainstreaming manual - Training reports (or Annual performance report)	
	3-1. Evaluation is conducted on the short-term, mid-term and long-term disaster risks in the Kelani river basin and estimated damages and losses 3-2. The Kelani river-basin short-term, mid-term and long-term DRR plans are developed 3-3. District Disaster Management Plans are enhanced with the contents of Kelani river-basin DRR strategies		
3. Basin strategy and local DRR plans are developed in consideration of disaster risks in the Kelani river basin.	4-1. Division Disaster Management Plans are enhanced with the contents of Kelani river-basin DRR plans 4-2. % of pilot DS Divisions that submit proposals of the projects in the DRR plans with the results of DRA (Target: 100%) 4-3. % of pilot LAs that incorporate DRR projects into their development and/or annual budget documents (Target: 100%)	'- Division Disaster Management plans - Project proposals - Annual budget documents - Interviews	
Activities	Inputs		Important Assumption
	Japanese Side	Sri Lanka Side	
1-1 DMC reviews the current system on the selection of development projects, budget allocation and coordination mechanisms at national and local levels.	(1) Assignments of Experts	(1) Assignments of Counterparts	

1-2 DMC, ID, UDA, Districts and other relevant agencies establishes a preparatory Kelani river-basin coordination organization (hereinafter referred to as “Technical Working Group (TWG)”) and identifies roles and responsibilities of member organizations in the Project. 1-3 TWG conducts a review of existing coordination mechanism and practices, capacities, roles and responsibilities of DRR-related organizations, planned and ongoing development projects, investment plans, historical disaster records and urban development plans in the Kelani river basin and prepares a report. Coordination practices, and expansion review the existing coordination mechanism for DRR and coordination practice developed issues, and gaps and other related information 1-4 Based on the results of Activity 1-3, TWG selects pilot DS Divisions/LAs in Kelani river basin and implements the activities of Output 4. 1-5 Based on lessons learned from Outputs 3 and 4, TWG prepares an implementation plan and a practical guideline to expand the project outputs to other river-basins. 2-1 In collaboration with NPD, TWG develops a disaster risk assessment and mainstreaming manual to better prepare Project Submission Format of NPD in line with DMC’ s mainstreaming guidelines. 2-2 TWG informs the manual of disaster risk assessment and mainstreaming, and provides training for relevant agencies, after the approval of NPD. 2-3 TWG revises the manual for DS Divisions and provides training on the project submission for all DS Divisions in the Kelani river basin. 2-4 TWG revises the manual for LAs and provides training on mainstreaming DRR for all LAs in the Kelani river basin. 2-5 Based on lessons learned through activities of Output 4, TWG finalizes the manuals for DS Divisions and LAs. 3-1 Based on the existing basin investment plans, TWG evaluates short-term, mid-term and long-term disaster risks and estimated damages and losses in the Kelani river basin in consideration of the progress of the plans and the increase in the population. 3-2 TWG identifies necessary structural and non-structural measures to reduce risks in the Kelani river basin, in consideration of existing development plans. 3-3 TWG prioritizes the structural and non-structural measures identified at Activity 3-2 and develops Kelani river-basin short-term, mid-term and long-term DRR plans. 3-4 TWG discusses the DRR plans at District Coordination Committee and reflects the contents into District Disaster Management Plan(s). 4-1 Based on the Kelani river-basin DRR plans developed at Output 3, pilot DS Divisions and LAs select projects to be implemented by them. 4-2 TWG discusses the DRR plans at Division Coordination Committees and reflects the contents into Division Disaster Management Plans. 4-3 Pilot DS Divisions submit proposals about projects selected at Activity 4-1 to relevant line agencies based on the risk assessment manual developed at Activity 2-3. 4-4 Pilot LAs incorporate DRR projects selected at Activity 4-1 into their development and annual budget documents, based on the mainstreaming DRR manual developed at Activity 2-4. 4-5 TWG monitors project proposal submissions and the implementation of them by DS Divisions and LAs at Division Coordination Committee.	1) Team Leader DRR / Basin Management 2) Disaster Risk Assessments 3) DRR Training Program 4) Flood Management Planning 5) Water Resources Management 6) Local DRR Planning 7) Development Planning/DRR Investment 8) DRR Project Management (2) Short-term Training in Japan 1) Promotion of Mainstreaming of and Investment in DRR 2) Flood Management and Basin DRR Planning 3) Enhancement of Local DRR	(2) Office space with facilities necessary for JICA experts (3) Running expenses for project activities (salary, travel/daily allowance, etc.) (4) Data and plans required for the project implementation	Pre-conditions
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*1 “Number of projects” is quantified when updated Project Submission Format is fully operational.

*2 The amount here is the total amount inserted under “DRR” of item 16 of NPD format. This indicator is assessed only if the data is available.

*3 “DRR projects” are projects included in line with the DRR plans and/or infrastructure projects which incorporate DRR perspective in the designs.

Plan of Operation (PO)

Project Title: Project for Mainstreaming Disaster Risk Reduction through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy in Sri Lanka

Inputs	Year	2020	2021	2022				2023				2024				2025		
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	
Experts	Team Leader / DRR-Basin Management	Plan																
		Actual																
	Vice Team Leader / Disaster Risk Assessment	Plan																
		Actual																
	DRR Training Program	Plan																
		Actual																
	Flood / Water Related Disaster Management Planning	Plan																
		Actual																
	DRR Institutional Structure / Training Arrangement	Plan																
		Actual																
Training in Japan	Local DRR Planning	Plan																
		Actual																
	Development Planning/DRR Investment	Plan																
		Actual																
	DRR Project Management	Plan																
		Actual																
	Training in Japan	Plan																
		Actual																
		Plan																
		Actual																

Activities	Year	2020	2021	2022				2023				2024				2025		Organization Concerned
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	

Output 1. A mechanism and a roadmap to promote basin-wide coordination and mainstream DRR are developed

1-1	DMC reviews the current system on the selection of development projects, budget allocation and coordination mechanisms at national and local levels	Plan																DMC
		Actual																
1-2	DMC, ID, UDA, Districts and other relevant agencies establishes a preparatory Kelani river basin coordination organization (hereinafter referred to as "Technical Working Group (TWG)") and identifies roles and responsibilities of member organizations in the Project	Plan																DMC/TWG
		Actual																
1-3	TWG conducts a review of existing coordination mechanism and practices, capacities, roles and responsibilities of DRR-related organizations, planned and ongoing development projects, investment plans, historical disaster records and urban development plans in the Kelani river basin and prepares a report.	Plan																DMC/TWG
		Actual																
1-4	Based on the results of Activity 1-3, TWG selects Pilot DS Divisions/LAs in Kelani river basin and implements the activities of Output 4	Plan																DMC/TWG
		Actual																
1-5	Based on lessons learned from Outputs 3 and 4, TWG prepares an implementation plan and a practical guideline to expand the project outputs to other river basins	Plan																DMC/TWG
		Actual																

Output 2. A system is established to incorporate DRR into development projects by relevant agencies, DS Divisions and LAs at national and local levels.

2-1	In collaboration with NPD, TWG develops a disaster risk assessment and mainstreaming manual to better prepare Project Submission Format of NPD in line with DMC's mainstreaming guidelines	Plan																DMC/NPD
		Actual																
2-2	TWG informs the manual of, and provides training for relevant agencies, after the approval of NPD	Plan																DMC/NPD
		Actual																
2-3	TWG revises the manual for DS Divisions and provides training on the project submission for all DS Divisions in the Kelani river basin	Plan																DMC/District/DS
		Actual																
2-4	TWG revises the manual for LAs and provides training on mainstreaming DRR for all LAs in the Kelani river basin	Plan																DMC/LA
		Actual																
2-5	Based on lessons learned through activities of Output 4, TWG finalizes the manuals for DS Divisions and LAs	Plan																DMC/TWG
		Actual																

Output 3. Basin DRR strategy is developed in consideration of disaster risks in the Kelani river basin.

3-1	Evaluate short-term, mid-term and long-term disaster risks and estimated damages and losses in the Kelani river basin	Plan																DMC/ID/SL LDC
		Actual																
3-2	Identifies necessary structural and non-structural measures to reduce risks in the Kelani river basin	Plan																DMC/ID/SL LDC/TWG
		Actual																
3-3	Prioritize the structural and non-structural measures and develops Kelani river basin DRR plans	Plan																DMC/ID/SL LDC/TWG
		Actual																
3-4	Discuss the DRR plans at District Coordination Committee and reflects the contents into District Disaster Management Plan(s)	Plan																DMC/District
		Actual																

Output 4. Mainstreaming DRR into development processes at local pilot areas in the Kelani river basin.

4-1	Based on the Kelani river basin DRR plans developed at Output 3, Pilot DS Divisions and LAs select projects to be implemented by them	Plan																DMC/TWG
		Actual																
4-2	TWG discusses the DRR plans at Division Coordination Committees and reflects the contents into Division Disaster Management Plan	Plan																DMC/District/DS
		Actual																
4-3	Pilot DS Divisions submit proposals about projects selected at Activity 4-1 to relevant line agencies based on the risk assessment manual developed at Activity 2-3	Plan																DMC/District/DS
		Actual																
4-4	Pilot LAs incorporate DRR projects selected at Activity 4-1 into their development and annual budget documents, based on the mainstreaming DRR manual developed at Activity 2-4	Plan																DMC/LA
		Actual																
4-5	TWG monitors project proposal submissions and the implementation of them by DS Divisions and LAs at Division Coordination Committee	Plan																DMC/TWG
		Actual																

Monitoring Plan	Year	2020	2021	2022				2023				2024				2025		
			Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	
Monitoring	JCC	Plan																
		Actual																
	Development of detailed PO	Plan																
		Actual																
	Monitoring Sheet (biannual)	Plan																
		Actual																
Reports/Documents	Work Plan	Plan																
		Actual																
	Progress / Final Report	Plan																
		Actual																
		Plan																
		Actual																

Minutes of Meeting for 1st JCC

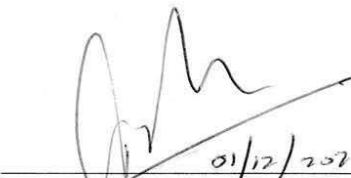
**MINUTES OF MEETINGS
ON
1ST JOINT COORDINATION COMMITTEE (JCC)
FOR
THE PROJECT FOR MAINSTREAMING DISASTER RISK REDUCTION THROUGH
ESTABLISHING LOCAL DISASTER RISK REDUCTION PLANS BASED ON RIVER
BASIN STRATEGY**

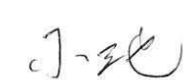
Based on the Record of Discussion (R/D) concerning the "Project for Mainstreaming Disaster Risk Reduction Through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy" signed on November 15th, 2019 between Ministry of Public Administration, Disaster Management and Livestock Development (MPADMLD) and Japan International Cooperation Agency (JICA), Joint Coordination Committee (JCC) was organized on ~~November~~ November 1st, 2021 under chairmanship of Major General Sudantha Ranasinghe, Director General of Disaster Management Centre (DMC).

As the result of the discussion in the JCC, representatives of relevant agencies agreed on the matters referred to in the documented here to.

Colombo, December 1st, 2021

 01/12/2021
Mr. Kiyofumi Takashima
Senior Representative,
Japan International Cooperation Agency,
Sri Lanka Office

 01/12/2021
Major General. Sudantha Ranasinghe
Director General,
Disaster Management Centre, State
Ministry of National Security and
Disaster Management

 
Mr. Toru Koike
Team Leader,
JICA Expert Team for the Project


Ms. Anoja Seneviratne
Director, Mitigation, Research and
Development Division, Disaster
Management Centre

ATTACHED DOCUMENT

The following are the main point discussed and agreed in the JCC.

1. Structure of the Project Implementation

The implementation structure of the Project was explained by the JICA Expert Team and Disaster Management Centre (DMC), and accepted in principle. **Annex-1**

2. Role of DMC in the Project

DMC, the main counterpart agency of the Project, manages the Project implementation in collaboration with other relevant government agencies, District Secretaries, DS Divisions (DSDs), and Local Authorities (LAs) in Colombo and Gampaha District, and assumes overall responsibility to extend the project outcomes to the river basins with in Districts of Colombo and Gampaha in addition to Kelani basin.

3. JCC Members

JCC members were confirmed in accordance with R/D as shown in Annex 1. Since pilot DSDs and LAs have not been selected, the members will be nominated after the pilot DSDs and LAs fixed in the Activity 1-4.

4. Technical Working Group

The Project is implemented by the Technical Working Group (TWG). The list of main counterpart personnel for the TWG is shown in **Annex 2**.

5. Project Design Matrix (PDM) **Annex 3**

Following items in "Objective Verifiable Indicators" of PDM have not been fixed yet.

- Overall Goal
Two LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies.
- Project Purpose
 1. Number of projects that are submitted with the results of Disaster Risk Assessment and area approved by government agencies including NPD for funding.
 2. Out of DRR project in pilot LAs' annual budget document, percentage of the projects those implementations start by the end of the project period.

Since baseline survey has not been conducted, the indicators will be discussed and concluded in the 2nd JCC.

6. Plan of Operation (PO)

Considering project delay caused by COVID-19 pandemic, the implementation schedule in PO was modified and proposed. **Annex 4.**

7. Work Plan

Work Plan (W/P) of the Project was drafted and explained. The W/P will be finalized after reflecting the baseline survey carried out before the 2nd JCC.

8. Next JCC

2nd JCC will be organized in April, 2022.

ANNEX 1

Implementation Structure

ANNEX 2

List of Counterpart Personnel (TWG)

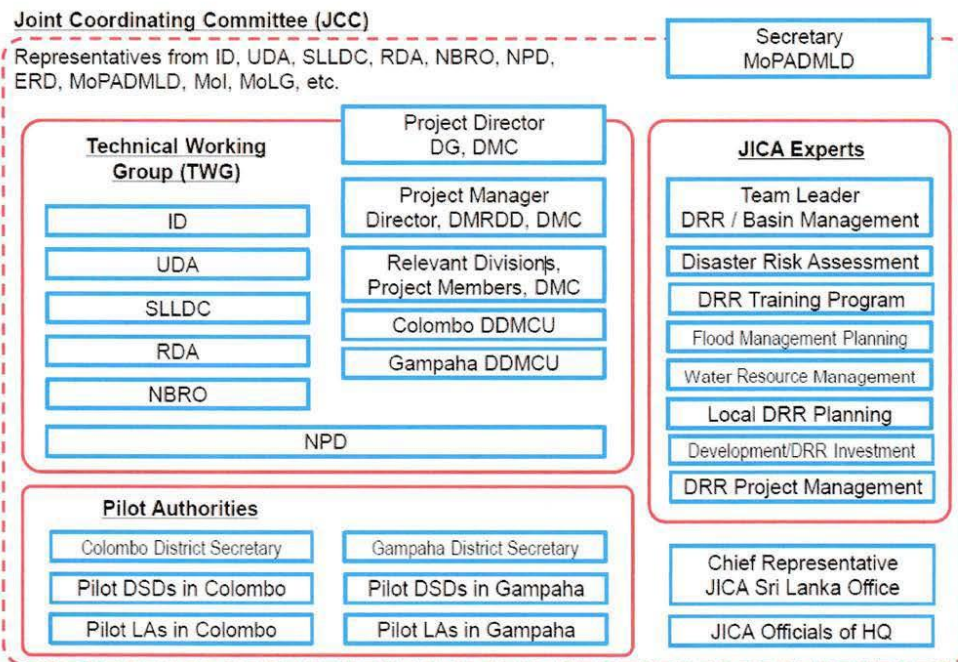
ANNEX 3

PDM (1)

ANNEX 4

PO (1)

Implementation Structure



ANNEX 2

List of Counterpart Personnel (TWG)

(1) Disaster Management Centre (DMC)

- | | |
|--------------------------------------|--|
| 1) Major General Sudantha Ranasinghe | Director General |
| 2) Ms. Anoja Seneviratne | Director, Mitigation, Research & Development |
| 3) Mr. J.M.S. Jayaweera | Director, Preparedness and Planning |
| 4) Mr. Ruwan Ratnayake | AD, Mitigation, Research & Development |
| 5) Mr. H.D.G. Priyantha | AD, Emergency Operation Centre |
| 6) Mr. Shan Pathirana | AD, Training |
| 7) Mr. Chandrasiri | AD, DDMCU Gampaha |
| 8) W.C. T.T.Gunaratne | AD, DDMCU Colombo |
| 9) H.M.A.U.Hellarawa | Personal Assistant to DG |

(2) Relevant Agencies

- | | |
|----------------------------|--|
| 1) Eng. W.H. Keerthiratne | Deputy General Manager, SLLDC |
| 2) Mr. Mahesh Somaratne | Senior Scientist (Geologist), NBRO |
| 3) Mr. S.P.C. Sugeeshwara | Director, Irrigation Department (ID) |
| 4) Ms. G.N. Jayathunga | Engineer, Road Development Authority (RDA) |
| 5) Ms. Chandana Kalupahana | Urban Development Authority (UDA) |
| 6) Mr./Ms. (TBD) | Department of National Planning (NPD) |

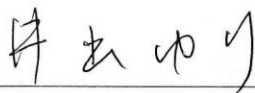
Minutes of Meeting for 2nd JCC

MINUTES OF MEETINGS
ON
2nd JOINT COORDINATION COMMITTEE (JCC)
FOR
THE PROJECT FOR MAINSTREAMING DISASTER RISK REDUCTION THROUGH
ESTABLISHING LOCAL DISASTER RISK REDUCTION PLANS BASED ON RIVER
BASIN STRATEGY

Based on the Record of Discussion (R/D) concerning the "Project for Mainstreaming Disaster Risk Reduction Through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy" signed on November 15th, 2019 between Ministry of Public Administration, Disaster Management and Livestock Development (MPADMLD) and Japan International Cooperation Agency (JICA), Joint Coordination Committee (JCC) was organized on September 1st, 2022 under chairmanship of Major General Sudantha Ranasinghe, Director General of Disaster Management Centre (DMC).

As the result of the discussion in the JCC, representatives of relevant agencies agreed on the matters referred to in the documented here to.

Colombo, September 1st, 2022



Mr. Yuri Ide
Senior Representative,
Japan International Cooperation Agency,
Sri Lanka Office



Major General. Sudantha Ranasinghe
Director General,
Disaster Management Centre, State
Ministry of National Security and
Disaster Management



for Mr. Toru Koike
Team Leader,
JICA Expert Team for the Project



Ms. Anoja Seneviratne
Director, Mitigation, Research and
Development Division, Disaster
Management Centre

ATTACHED DOCUMENT

The following are the main point discussed and agreed in the JCC.

1. Project Monitoring

The Project team explained the Project Monitoring Sheet Vol.2 (Annex-1). JCC members confirmed the entire progress of the Project. Major General. Sudantha Ranasinghe, DG DMC addressed the importance of the Project monitoring, and the achievement within 2022 should be reviewed in the first two weeks of year 2023.

2. Extension of the Project

Due to the influence of COVID-19, the Project kickoff meeting was held in April 2021, about 1 year behind from the original schedule. Accordingly, all the Project activities have been delayed. To complete all of the activities and achieve the Project purpose within the Project period, the Project extension about 1 year was agreed in the 1st JCC in December 2021. Sri Lankan side will proceed forward with the official process of the extension.

- Original: April 2020 to March 2024
- Amended: April 2020 to March 2025

3. Project pilot sites

As a result of activity 1-4, the Project pilot sites were selected and agreed by the JCC members. Selected 4 DS divisions (DSDs) and 4 Local Authorities (LAs) are as below:

<Colombo district>

- Kaduwela DSD /Kaduwela MC
- Kolonnawa DSD / Kotikawatta - Mulleriyawa PS

<Gampaha district>

- Kelaniya DS / Kelaniya PS
- Biyagama DS / Biyagama PS

4. Workshop for the pilot DSDs / LAs

Upon the agreement of the Project pilot sites, the TWG will invite all of the pilot DSDs / LAs to discuss the role and responsibilities of the pilot DSDs / LAs in the Project, as well as to confirm the activity schedule in principle. The workshop for the pilot DSDs / LAs will be

held in September 8th, 2022.

5. 3rd JCC meeting

JCC members agreed that the next JCC will be organized in December 2022 or within first two weeks of year 2023 to review the achievement in 2022.

ANNEX 1

List of Attendance

ANNEX 2

Project Monitoring Sheets Vol.2

ANNEX 1

List of Attendance

(1) Disaster Management Centre (DMC)

- | | |
|--------------------------------------|--|
| 1) Major General Sudantha Ranasinghe | Director General |
| 2) Ms. Anoja Seneviratne | Director, Mitigation, Research & Development |
| 3) Mr. J.M.S. Jayaweera | Director, Preparedness and Planning |
| 4) Ms. G.M.T.S. Ferunando | AD, Mitigation, Research & Development |
| 5) Mr. H.D.G. Priyantha | AD, Emergency Operation Centre |
| 6) Mr. Shann Pathirana | AD, Education & Awareness |
| 7) Mr. Ajith N. Chandrasiri | AD, DDMCU Gampaha |
| 8) Mr. W. M.D.T. Bandara | AD, DDMCU Colombo |
| 9) Mr. L.P.L.N.K Liyanage | Mgmt. Assist. Coordinator, DDMCU Colombo |
| 9) Mr. J.P.R. Kulasinghe | Mgmt. Assist. Coordinator, DDMCU Colombo |
| 10) Ms. H.M.A.U.Hellarawa | Personal Assistant to DG |

(2) Relevant Agencies

- | | |
|----------------------------|---|
| 1) Eng. W.H. Keerthiratne | Deputy General Manager, SLLDC |
| 2) Mr. S. Hemakanth | Chief Engineer, Irrigation Department (ID) |
| 3) Ms. G.N. Jayathunga | Engineer, Road Development Authority (RDA) |
| 4) Ms. Padma Wijesinghe | Urban Development Authority (UDA) |
| 5) Mr. K.G. Sudharme | Director, Planning Division, Western Province |
| 6) Mr. Yasantha Gikiyanage | Deputy Director, Department of National Planning (NPD) [Online] |
| 7) Mr. Mahesh Somaratne | Senior Scientist (Geologist), NBRO [Online] |

(3) JICA

- | | |
|----------------------------------|--|
| 1) Mr. Kiyofumi Takashima | Senior Representative (Sri Lanka office) |
| 2) Mr. Takafumi Sakurazawa | Representative (Sri Lanka office) |
| 3) Mr. Thiyagarajah Paramendiren | Project Specialist (Sri Lanka office) |
| 4) Mr. Taichi Minamitani | Senior Representative (Headquarter) [Online] |
| 5) Ms. Saori Kojima | Representative (Headquarter) [Online] |

(4) Project Team

- | | |
|----------------------|--|
| 1) Mr. Toru Koike | Team leader/DRR-Basin management |
| 2) Mr. Tomoyuki Wada | Vice team leader/Disaster Risk Assess |
| 3) Mr. Masao Uematsu | DRR Training Program |
| 4) Ms. Masae Kuroki | DRR Institutional Structure / Training |

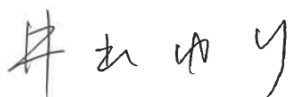
Minutes of Meeting for 3rd JCC

MINUTES OF MEETINGS
ON
3rd JOINT COORDINATION COMMITTEE (JCC)
FOR
THE PROJECT FOR MAINSTREAMING DISASTER RISK REDUCTION THROUGH
ESTABLISHING LOCAL DISASTER RISK REDUCTION PLANS BASED ON RIVER
BASIN STRATEGY

Based on the Record of Discussion (R/D) concerning the "Project for Mainstreaming Disaster Risk Reduction Through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy" signed on November 15th, 2019 between Ministry of Public Administration, Disaster Management and Livestock Development (MPADMLD) and Japan International Cooperation Agency (JICA), Joint Coordination Committee (JCC) was organized on March 22nd, 2023 under chairmanship of Major General Sudantha Ranasinghe, Director General of Disaster Management Centre (DMC).

As the result of the discussion in the JCC, representatives of relevant agencies agreed on the matters referred to in the documented here to.

Colombo, March 22nd, 2023



Mr. Yuri Ide
Senior Representative,
Japan International Cooperation Agency,
Sri Lanka Office



Major General Sudantha Ranasinghe
Director General,
Disaster Management Centre, State
Ministry of Defence



Mr. Toru Koike
Team Leader,
JICA Expert Team for the Project



Ms. Anoja Seneviratne
Director, Mitigation, Research and
Development Division, Disaster
Management Centre

ATTACHED DOCUMENT

The following are the main points discussed and agreed in the JCC.

1. Project Progress and Monitoring

Ms. Anoja Seneviratne, the project manager, reported overall project progress and future activity plan, which were summarized in the Project Monitoring Sheet Vol.3 (Annex-2). JCC members confirmed the progress of the Project. The project monitoring shall be continuously done; the project team will report achievements of the project in the next JCC.

2. Extension of the Project

Due to the delay of project launch caused by the influence of COVID-19, one year extension of the project period had been agreed in the 2nd JCC in September 2022. Based on the agreement, the R/D was revised and signed on February 28; the project period was officially extended to March 2025 (five years in total).

3. Upscaling of the Project Outcomes

Major General. Sudantha Ranasinghe stated that during the Project, LAs and DSDs in the Kalani river basin out of the Project pilot sites shall be involved in the training trainings at pilot sites, to expand the Project outcomes after the Project, and the DDMCU will actively participate in the activities not only in their district but also in another district.

4. Objectively Verifiable Indicators of the Project

Some quantitative indices of the objectively verifiable indicators of the project purpose and the overall goal in Project Design Matrix (PDM) have been blank because the indices should be decided based on the baseline of each status. Considering the baselines that have been studied through the Project, the objectively verifiable indicators and indices were revised as follows and approved by the JCC members.

Indicators of Project Purpose:

Original: 1. Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding (Target: XX)

Revised: 1. Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: XX)

Note: This indicator has not been concluded in JCC. Upon the current economic circumstances in Sri Lanka, the project submissions from line agencies are highly restricted. The target shall be discussed and decided after the next JCC.

Original: 2. Out of DRR projects in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: XX%)

Revised: 2. Out of DRR projects in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: 50%)

Indicators of Overall Goal

Original: 2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: XX)

Revised: 2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: 4 LAs)

5. Training in Japan

The first counterpart training in Japan is planned in the late May 2023. Tentatively, the training is scheduled from 20th May to 2nd June. Through the training, the participants will discuss about the current issues on the Kelani river basin strategy and to promote mainstreaming and investment on DRR in the basin. The discussion shall be summarized as an Action Plan after the training.

6. 4th JCC meeting

JCC members agreed that the next JCC will be organized around November 2024.

ANNEX 1

List of Attendance

ANNEX 2

Project Monitoring Sheets Vol.3

ANNEX 1

List of Attendance

(1) Disaster Management Centre (DMC)

- | | |
|--------------------------------------|--|
| 1) Major General Sudantha Ranasinghe | Director General |
| 2) Ms. Anoja Seneviratne | Director, Mitigation, Research & Development |
| 3) Mr. J.M.S. Jayaweera | Director, Preparedness and Planning |
| 4) Mr. Ajith N. Chandrasiri | AD, DDMCU Gampaha |
| 5) Mr. W. M.D.T. Bandara | AD, DDMCU Colombo |
| 6) Ms. H.M.A.U.Hellarawa | Personal Assistant to DG |

(2) Relevant Agencies

- | | |
|------------------------------|---|
| 1) Mr. E.D.S.Iresh | Chief Engineer, Irrigation Department (ID) |
| 2) Ms. G.N. Jayathunga | Engineer, Road Development Authority (RDA)
[Online] |
| 3) Ms. Chandana Kalupahana | Director, Urban Development Authority (UDA) |
| 4) Ms. Padma Wijesinghe | Deputy Director, Urban Development Authority (UDA) |
| 5) Mr. Mahesh Somaratne | Senior Scientist (Geologist), National Building Research Organisation (NBRO) [Online] |
| 6) Ms.D.B. Amila Madhubhasim | Engineer, Sri Lanka Land Development Corporation (SLLDC) |

(3) JICA

- | | |
|----------------------------------|--|
| 1) Ms. Yuri Ide | Senior Representative (Sri Lanka office) |
| 2) Mr. Takafumi Sakurazawa | Representative (Sri Lanka office) |
| 3) Mr. Thiyagarajah Paramendiren | Project Specialist (Sri Lanka office) |
| 4) Mr. Akira Inaba | Representative (Headquarter) [Online] |

(4) Project Team

- | | |
|----------------------|--|
| 1) Mr. Toru Koike | Team leader/DRR-Basin management |
| 2) Mr. Tomoyuki Wada | Vice team leader/Disaster Risk Assess [Online] |
| 3) Mr. Jun Onodera | Development Planning / Investment |
| 4) Ms. Masae Kuroki | DRR Institutional Structure / Training |
| 5) Mr. Masao Uematsu | DRR Training Program [Online] |

Minutes of Meeting for 4th JCC

MINUTES OF MEETINGS
ON
4th JOINT COORDINATION COMMITTEE (JCC)
FOR
THE PROJECT FOR MAINSTREAMING DISASTER RISK REDUCTION THROUGH
ESTABLISHING LOCAL DISASTER RISK REDUCTION PLANS BASED ON RIVER
BASIN STRATEGY

Based on the Record of Discussion (R/D) concerning the "Project for Mainstreaming Disaster Risk Reduction Through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy" signed on November 15th, 2019 between Ministry of Public Administration, Disaster Management and Livestock Development (MPADMLD) and Japan International Cooperation Agency (JICA), the 4th Joint Coordination Committee (JCC) was organized on May 21st, 2024 under chairmanship of Major General Udaya Herath, Director General of Disaster Management Centre (DMC), Ministry of Defense (MoD). As the result of the discussion in the JCC, representatives of relevant agencies agreed on the matters referred to in the documented here to.

Colombo, May 21st, 2024



Mr. Takuma Noguchi
Senior Representative,
Japan International Cooperation Agency,
Sri Lanka Office



Major General. Udaya Herath
Director General,
Disaster Management Centre,
Ministry of Defence



Mr. Toru Koike
Team Leader,
JICA Expert Team for the Project



Ms. Anoja Seneviratne
Director, Mitigation, Research and
Development Division, Disaster
Management Centre

ATTACHED DOCUMENT

The following are the main points discussed and agreed in the JCC.

1. Project Progress and Monitoring

Ms. Anoja Seneviratne, the project manager, presented a comprehensive overview of the project progress and delineated forthcoming activities, which were summarized in the Project Monitoring Sheet Vol.4 (Annex-2). JCC members affirmed that the progress remains steadfastly aligned with the schedule.

It was agreed that, throughout the remaining project period, 1) all the TWG members shall dedicate its efforts to summarize project outcomes and strategies for forthcoming implementation and dissemination, 2) pilot DS/LAs shall diligently execute proposed projects within their respective local DRR plan, the TWG member shall support their implementation as needed.

2. 2nd Counterpart Training in Japan

The 2nd counterpart training in Japan is scheduled to take place from May 27th to June 3rd, 2024. This training initiative will involve nine (9) members including DMC DG, Irrigation Department as well as representatives from pilot DS/LAs. The primary objective of this program is to facilitate an Integrated Flood Management (IFM) and local initiatives within the several river basins in Japan. Participants will actively engage in observing and analyzing basin-wide coordination mechanism. Furthermore, they will collaboratively develop individual action plans intended for the effective implementation of DRR strategies, with a focus on implementation of their local DRR plans.

3. Verifiable Indicator in Project Design Matrix (PDM)

At the latest JCC, the verifiable indicators in PDM have updated. However, the target concerning the "Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024" has yet to be concluded considering the current economic circumstances in which the project submissions from line agencies have been restricted.

Based on the actual number of project submissions and approvals in recent years, the target was discussed and identified as follow.

Indicators of Project Purpose

Original: 1. Number of projects that are submitted based on updated Project

Submission Format and are approved by NPD in 2024 (Target: XX)

Revised: 1. Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20% of submitted projects)

4. Human Resources of DMC

A considerable number of TWG members from DMC have resigned or been transferred to other positions. This situation poses a significant challenge in ensuring adequate implementation for effectively disseminate project outcomes to other regions. Recognizing the critical role of the DMC as leading institution in DRR, the expert team has formally requested that sufficient staff be recruited during and after the project to address this issue.

5. 5th JCC meeting

JCC members agreed that the next JCC will be organized January 2025, to wrap-up the all the activities and outcomes of the Project, and discuss future implementation.

ANNEX 1

List of Attendance

ANNEX 2

Project Monitoring Sheets Vol.4

Minutes of Meeting for 5th JCC

MINUTES OF MEETINGS
ON
5th JOINT COORDINATION COMMITTEE (JCC)
FOR
THE PROJECT FOR MAINSTREAMING DISASTER RISK REDUCTION THROUGH
ESTABLISHING LOCAL DISASTER RISK REDUCTION PLANS BASED ON RIVER
BASIN STRATEGY

Based on the Record of Discussion (R/D) concerning the “Project for Mainstreaming Disaster Risk Reduction Through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy” signed on November 15th, 2019 between Ministry of Public Administration, Disaster Management and Livestock Development (MPADMLD) and Japan International Cooperation Agency (JICA), the 5th Joint Coordination Committee (JCC) was organized on January 15th, 2025 under chairmanship of Major General Udaya Herath, Director General of Disaster Management Centre (DMC), Ministry of Defense (MoD).

As the result of the discussion in the JCC, representatives of relevant agencies agreed on the matters referred to in the documented here to.

Colombo, January 15th, 2025



Mr. Eiji Otsuki
Senior Advisor (Flood Control and Water
Related Disaster Risk Reduction)
Japan International Cooperation Agency



Major General. Udaya Herath
Director General,
Disaster Management Centre,
Ministry of Defense



Mr. Toru Koike
Team Leader,
JICA Expert Team for the Project



Ms. Anoja Seneviratne
Director, Mitigation, Research and
Development Division, Disaster
Management Centre

ATTACHED DOCUMENT

The following are the main points discussed and agreed in the JCC.

1. Project Achievements

Ms. Anoja Seneviratne, the project manager, presented a comprehensive overview of the Project achievements. The JCC members affirmed that all the planned activities have been carried out with dedicated engagement of Technical Working Group (TWG) members and pilot DS divisions (DSs) and Local Authorities (LAs) and achieved the planned outputs as described in the Project Design Matrix (PDM).

2. Amendment of PDM

▪ Verifiable indicator for the Project Purpose

- ✓ As for “Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20% of submitted projects)”, although the format was officially updated and announced to line ministries in March 2024, the operation manual has not been developed yet. Consequently, the previous format continued to be used throughout 2024. As such, this verifiable indicator cannot currently be quantified. Once the updated format is fully operational, the DMC in collaboration with the NPD will monitor the status of project approvals.

▪ Verifiable indicator for the Overall Goal

- ✓ As for “Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding (Baseline: The number at the end of Project, Target: Increase than the baseline data)”, due to the same reason above, it is not possible to set the baseline that is the number of submitted and approved projects using newly updated format.
- ✓ As for “The amount of DRR investment is increased”, which is assessed only if the data is available as stated in the proviso of the PDM, it is expected to be verified when a database system for public investments in NPD will be developed. Meanwhile, DMC is currently evaluating the amount of DRR investment in Sri Lanka for the purpose of interim review of the Senda Framework 2015-2023. Such information can be utilized for evaluation of achievement for Overall Goal.

3. Best practices through the Project

The following examples of the best practices implemented in each pilot administration were introduced. It is highly anticipated that these initiatives shall be scale up and disseminated to other DSs/LAs with the Kelani River basin.

	DS Division	Local Authority
--	-------------	-----------------

Kaduwela DS Kaduwela MC	Launch a voluntary disaster response force, inspired by the flood fighting volunteer system in Japan.	Launch a drainage cleaning campaign involving community members, inspired by facility maintenance efforts in Japan.
Kelaniya DS Kelaniya PS	Initiation of discussion with the UDA for nature park development following the resettlement of illegal housing outside of Kelani flood bands in the Mewella area.	Aiming to enact a new By-law requiring building foundations to be at least 50cm above ground level.
Biyagama DS Biyagama PS	Initiation of discussion on repurposes of abundant puddy fields as retarding basins.	Enforcement of land use regulations based on LA Development Plan to avoid unauthorized constructions and lowland fillings.
Kolonnawa DS Kotikawatta- Mulleriyawa PS	Submission of project proposals to respective institutions with information of the project implementation benefits.	Installation of signage to discourage illegal housing development in wetland areas.

In addition, there is significantly increasing Disaster Risk Reduction (DRR) budget allocation in Kaduwela MC, particularly for channel cleaning and repairing to improve rainwater drainage.

Project activities at local level generated synergetic effect on DRR project coordination between DS and LA, which resulted in producing good practices at respective DS and LA. The reason that upstanding coordination mechanism is generated is that the TWG especially DMC led both LA and DS to be present on every activity occasion, such as a planning meeting for Local DRR Plan, a meeting to prepare DRR project proposals, mainstreaming DRR workshops, and training in Japan.

Coordination between DS, which identify local needs and reflect them in national projects, and LAs, which provide public services using local financial resources, were crucial for successful implementation of DRR project at the local level. The JCC members strongly recommended that the DMC continue to promote this coordination and actively monitor the implementation of these initiatives by local administration.

4. Expansion of the Project outcomes

The Project Expansion Plan was formulated and proposed by the TWG members and discussed in the JCC to ensure its successful implementation. The DMC and other line agencies are expected to carry out the plan in accordance with the following approaches:

1) Expansion and implementation in the other river basins

The DMC, in collaboration with relevant line agencies, shall identify and prioritize river basins based on disaster risks, critical protective infrastructures and socio-economic activities. In developing basin strategies, both river improvements and rainwater retentions measures shall be incorporated to achieve the target safety levels while ensuring sustainable development.

2) Establishing a model basin for substantial DRR investments

To encourage substantial DRR investments from other local administrations, DRR initiatives based on basin strategies must be practical, visible and effective. As such, establishment of a model basin in small catchments with high density of economic activities was proposed. Various sectors such as industry, education and health in the model basin shall be incorporated into the DRR initiatives. By focusing on the Mudun Ela basin - where national programmes are already

in progress by SLLDC - it is possible to demonstrate the effectiveness of DRR through the integration of central and local DRR efforts.

The DMC explained a detailed implementation plan for Mudun Ela basin and emphasized the necessity of continuous support by JICA. Furthermore, the DMC highlighted that the proposed project would actively involve the private sector of both Sri Lanka and Japan, such as contribution by rainwater retention of newly attracted factories. This collaborative approach ensures sustainable development in the area, thereby strengthening the effectiveness of disaster risk reduction measures.

5. Further recommendations to achieve overall goal

▪ Visualization of DRR investments

While the updated Project Submission Format has not yet been fully implemented, once operational, the total amount of national DRR investments could be visualized. To support this, the NPD shall develop a database system to analyze the national DRR investments.

▪ River Basin Coordination Mechanism

DMC, Irrigation Department (ID) and other line agencies shall collaborate to establish river basin coordination mechanism. Currently discussions are underway on forming an Inter-organizational Flood Risk Management Committee (IFRMC) and a River Basin Flood Committee (RBFC) in conjunction with the enactment of a new Flood Act. Until such a mechanism is formally in place, the TWG shall function as an interim technical advisory unit for developing basin strategy and evaluation of the local DRR projects. The TWG is also expected to be regulated and legalized by an appropriate authority in order to further promote DRR in Sri Lanka.

▪ Formulation and implementation of local DRR plans

DMC shall encourage the DSs/LAs to formulate and implement the local DRR plans. It is expected that the four pilot DSs/LAs together with TWG members will act as trainers to facilitate the expansion of local DRR plan development to the other DSs/LAs within Kelani River basin. The TWG members shall continue to support the project formulation at local level.

▪ Coordination by DSs

DSs in close collaboration with LAs shall update their DS divisional-level local DRR plans annually. The DSs play a critical role in accurately conveying local needs to the central government and driving proactive DRR investments in their area. DSs shall continue promoting collaboration with related agencies through Divisional Coordination Committees and District Coordination Committees.

▪ Addressing budget limitations of LAs

Since the LAs' budget systems are based on a single year accounting system, implementing large-scale DRR projects remains challenging. To address this, LAs shall proactively utilize local subsidies provided by the central and provincial governments such as Provincial Specific Development Grant (PSDG) to secure resources for DRR initiatives.

6. Other discussion

- The JICA Sri Lanka office proposed leveraging JICA volunteers to assist in and monitor DRR activities within LAs. Additionally, the office suggested supporting the acceleration of legal frameworks, such as the new Flood Management Act, to enhance the implementation of basin-based DRR activities.
- JICA headquarters highlighted that the inputs of the TWG members coordinated by the DMC is invaluable contribution to the project and expressed appreciation for the participants in training programs in Japan, commending their efforts to apply the knowledge and experiences gained during the training to their local administration and public services. Such practice would serve as valuable feedback and be shared to inform similar projects in other countries.

ANNEX 1

List of Attendance

ANNEX 2

Project Design Matrix (Ver. 4)

ANNEX 1

List of Attendance

(1) Disaster Management Centre (DMC)

- | | |
|---------------------------------|--|
| 1) Major General Udaya Herath | Director General |
| 2) Ms. Anoja Seneviratne | Director, Mitigation, Research & Development |
| 3) Mr. Mr. Shann Pathirana | Deputy Director, Education and Awareness |
| 4) Mr. Ajith N. Chandrasiri | AD, DDMCU Gampaha |
| 5) Wing Comm. G. P. Dissanayake | AD, DDMCU Colombo |

(2) Relevant Agencies

- | | |
|-------------------------------|--|
| 1) Ms. Chandana Kalupahana | Director, Urban Development Authority (UDA) |
| 2) Ms. Padma Wijesinghe | Deputy Director, Urban Development Authority (UDA) |
| 3) Mr. Mahesh Somaratne | Senior Scientist (Geologist), National Building Research Organisation (NBRO) |
| 4) Ms. D.B. Amila Madhubhasim | Engineer, Sri Lanka Land Development Corporation (SLDLC) |
| 5) Ms. Rajitha Jagoda | Director, Department of National Planning (NPD)* |
| 6) Ms. G.N. Jayathunga | Engineer, Road Development Authority (RDA) * |

(3) Pilot DS/LA

- | | |
|--------------------------------------|---|
| 1) Ms. D.P.D Saddhasena | Additional Divisional Secretary, Kaduwela DS Division |
| 2) Ms. Dilrukshi Gamage | Municipal Commissioner, Kaduwela Municipal Council |
| 3) Mr. D. M. S. M. Dissanayake | Municipal Engineer, Kaduwela Municipal Council |
| 4) Mr. Priyanath Perera | Divisional Secretary, Kolonnawa DS Division |
| 5) Ms. Chandima Siriwardhana | Disaster Relief Officer, Kolonnawa DS Division |
| 6) Mr. R.A.B.T. Ranasinghe | Technical officer, Kotikawatta - Mulleriyawa PS |
| 7) Ms. S.A. Chandima Sooriyaarachchi | Divisional Secretary, Biyagama DS Division |
| 8) Ms. A.G.N.S Gunarathne | Disaster Relief Officer, Biyagama DS Division |
| 9) Ms. W.M.P.N.Kumarasinghe | Technical officer, Biyagama PS |
| 10) Ms. G.H.R Chandrika | Technical officer, Biyagama PS |
| 11) Ms. Bhagya Athukorala | Assistant Divisional Secretary, Kelaniya DS Division |
| 12) Ms. Dilina Prasadhi | Technical Officer, Kelaniya PS |
| 13) Mr. H.S.R. Perera | Industrial Officer, Kelaniya PS |

(4) JICA

- | | |
|-----------------------|--|
| 1) Mr. Takuma Noguchi | Senior Representative (Sri Lanka office) |
|-----------------------|--|

2) Mr. Eiji Otsuki	Senior Advisor (Headquarter)
3) Mr. Akira Inaba	Representative (Headquarter)
4) Mr. Takafumi Sakurazawa	Representative (Sri Lanka office)
5) Mr. Thiyagarajah Paramendiren	Project Specialist (Sri Lanka office)
6) Mr. Mami Tomoki	Assistant Director (Headquater)

(5) Project Team

1) Mr. Toru Koike	Team leader/DRR-Basin management
2) Mr. Tomoyuki Wada	Vice team leader/Disaster Risk Assess
3) Mr. Jun Onodera	Development Planning / Investment*
4) Ms. Masae Kuroki	DRR Institutional Structure / Training
5) Ms. W.D.Chamila Chandanie	Project Assistant

*Online

Project Design Matrix (Ver.4)

Ver.4, Dated January 15, 2025

Project Name: Project for Mainstreaming Disaster Risk Reduction through Establishing Local Disaster Risk Reduction Plans Based on River Basin Strategy in Sri Lanka
 Implementing Agency: Disaster Management Centre (DMC)
 Target Group: Officials of DMC and development partner agencies
 Project Period: March 2020 to March 2025
 Project Sites: Colombo and Kelani river basin

Narrative Summary		Objectively Verifiable Indicators	Means of Verification	Important Assumptions
[Overall Goal] Mainstreaming Disaster Risk Reduction (DRR) and DRR investments are promoted in Sri Lanka based on the mechanism established by the Project.		1. Number of projects that are submitted with the results of Disaster Risk Assessment (DRA) and are approved by government agencies including NPD for funding ^(*) 2. Number of LAs (excluding pilot ones) whose annual budget documents that are developed in line with basin-based DRR strategies (Target: 4 LAs) 3. The amount of DRR investment is increased ^(**)	- Public Investment Program (PIP) report - DMC's report, sectoral plans - Annual budget documents of LAs - Project proposals - PIP Database (if available) - Interviews	
	[Project Purpose] A mechanism to promote mainstreaming DRR and DRR investments is enhanced and piloted in Kelani River basin through establishing local DRR plans.	1. Number of projects that are submitted based on updated Project Submission Format and are approved by NPD in 2024 (Target: 20% of submitted projects) 2. Out of DRR projects ^(*) in pilot LAs' annual budget documents, % of the projects those implementations start by the end of the project period (Target: 50%)	- PIP report, DMC's report, sectoral plans - Interviews - Observation	
	[Outputs] 1. A mechanism and a roadmap to promote basin-wide coordination and mainstream DRR are developed.	1-1. TOR of the TWG is developed 1-2. A review report on the coordination mechanisms, practices and other-related information is prepared 1-3. An implementation plan of the mechanism and a practical guideline are developed and approved by NDMC	- TOR of the TWG - A review report - An implementation plan - A guideline on the project outputs - Meeting minutes	
2. A system is established to incorporate DRR into development projects by relevant agencies, DS Divisions and LAs at national and local levels.		2-1. A DRA and mainstreaming manual is developed 2-2. A manual on DRR project submission for DS Divisions is developed and finalized after trials at pilot sites 2-3. A manual on the mainstreaming DRR for LAs is developed and finalized after trials at pilot sites 2-4. Training is conducted for relevant agencies and all DS Divisions and LAs in the Kelani river basin.	- A DRA and mainstreaming manual - a DRR project submission manual - a mainstreaming manual - Training reports (or Annual performance report)	
	3. Basin strategy and local DRR plans are developed in consideration of disaster risks in the Kelani river basin.	3-1. Evaluation is conducted on the short-term, mid-term and long-term disaster risks in the Kelani river basin and estimated damages and losses 3-2. The Kelani river-basin short-term, mid-term and long-term DRR plans are developed 3-3. District Disaster Management Plans are enhanced with the contents of Kelani river-basin DRR strategies	- Evaluation report - The Kelani river-basin short-term, mid-term and long-term DRR plans - District Disaster Management Plans	
4. Mainstreaming DRR into development processes at local pilot areas		4-1. Division Disaster Management Plans are enhanced with the contents	- Division Disaster Management	

ANNEX 2

in the Kelani river basin.	Activities	of Kelani river-basin DRR plans	plans	Security situation does not deteriorate
		4-2. % of pilot DS Divisions that submit proposals of the projects in the DRR plans with the results of DRA (Target: 100%) 4-3. % of pilot LAs that incorporate DRR projects into their development and/or annual budget documents (Target: 100%)	- Project proposals - Annual budget documents - Interviews	
Inputs				
		[Japanese side] (1) Assignments of Experts 1) Team Leader DRR / Basin Management 2) Disaster Risk Assessments 3) DRR Training Program 4) Flood Management Planning 5) Water Resources Management 6) Local DRR Planning 7) Development Planning/DRR Investment 8) DRR Project Management (2) Short-term Training in Japan 1) Promotion of Mainstreaming of and Investment in DRR 2) Flood Management and Basin DRR Planning 3) Enhancement of Local DRR	[Sri Lankan side] (1) Assignments of Counterparts (2) Office space with facilities necessary for JICA experts (3) Running expenses for project activities (salary, travel/daily allowance, etc.) (4) Data and plans required for the project implementation	
[Pre-condition]				
<Output 1> 1-1. DMC reviews the current system on the selection of development projects, budget allocation and coordination mechanisms at national and local levels 1-2. DMC, ID, UDA, Districts and other relevant agencies establishes a preparatory Kelani river-basin coordination organization (hereinafter referred to as "Technical Working Group (TWG)") and identifies roles and responsibilities of member organizations in the Project 1-3. TWG conducts a review of existing coordination mechanism and practices, capacities, roles and responsibilities of DRR-related organizations, planned and ongoing development projects, investment plans, historical disaster records and urban development plans in the Kelani river basin and prepares a report. 1-4. Based on the results of Activity 1-3, TWG selects pilot DS Divisions/LAs in Kelani river basin and implements the activities of Output 4 1-5. Based on lessons learned from Outputs 3 and 4, TWG prepares an implementation plan and a practical guideline to expand the project outputs to other river-basins <Output 2> 2-1. In collaboration with NPD, TWG develops a disaster risk assessment and mainstreaming manual to better prepare Project Submission Format of NPD in line with DMC's mainstreaming guidelines 2-2. TWG informs the manual of, and provides training for relevant agencies, after the approval of NPD 2-3. TWG revises the manual for DS Divisions and provides training on the project submission for all DS Divisions in the Kelani river basin 2-4. TWG revises the manual for LAs and provides training on mainstreaming DRR for all LAs in the Kelani river basin 2-5. Based on lessons learned through activities of Output 4, TWG finalizes the manuals for DS Divisions and LAs				

<Output 3> 3-1. Based on the existing basin investment plans, TWG evaluates short-term, mid-term and long-term disaster risks and estimated damages and losses in the Kelani river basin in consideration of the progress of the plans and the increase in the population to reduce risks in the Kelani river basin, in consideration of existing development plans 3-2. TWG identifies necessary structural and non-structural measures to reduce risks in the Kelani river basin, in consideration of existing development plans 3-3. TWG prioritizes the structural and non-structural measures identified at Activity 3-2 and develops Kelani river-basin short-term, mid-term and long-term DRR plans 3-4. TWG discusses the DRR plans at District Coordination Committee and reflects the contents into District Disaster Management Plan(s)	
<Output 4> 4-1. Based on the Kelani river-basin DRR plans developed at Output 3, pilot DS Divisions and LAs select projects to be implemented by them 4-2. TWG discusses the DRR plans at Division Coordination Committees and reflects the contents into Division Disaster Management Plans 4-3. Pilot DS Divisions submit proposals about projects selected at Activity 4-1 to relevant line agencies based on the risk assessment manual developed at Activity 2-3 4-4. Pilot LAs incorporate DRR projects selected at Activity 4-1 into their development and annual budget documents, based on the mainstreaming DRR manual developed at Activity 2-4 4-5. TWG monitors project proposal submissions and the implementation of them by DS Divisions and LAs at Division Coordination Committee	

1 Number of projects is quantified when updated Project Submission Format is fully operational

*2 The amount here is the total amount inserted under "DRR" of item 16 of NPD format. This indicator is assessed only, if the data is available.

*3 "DRR projects" are projects included in line with the DRR plans and/or infrastructure projects which incorporate DRR perspective in the designs.