

Data Book 7

Newsletters

Message from DMC and JICA

*SLDM MIND: JICA Sri Lanka Disaster Management Study with DOM, DOI, NBRO and DMC

The Disaster Management Centre, established under the Sri Lanka Disaster Management Act No. 13 of 2005, coordinates all work with regard to Disaster Management in Sri Lanka such as Tsunamis, floods, landslides etc which are major challenges that need to be overcome in order to ensure sustainable human development and poverty alleviation. DMC is expecting JICA Study for valuable contribution to our activities.

Major General Gamini Hettiarachchi (DG DMC)

Japan International Cooperation Agency, Japan is a country that has always been struggling with so many natural disasters. JICA believes that the dissemination of the knowledge and the expertise on disaster management will help to manage possible disasters in Sri Lanka and make it a safer country. Sri Lanka has just started its first few steps in the field of disaster management. Many more measures have to be taken here onwards, however there is no doubt that the step-by-step process will benefit to every single person in the country.

Takumi Ueshima (Resident Representative, JICA Sri Lanka Office)

In This Issue:

- Message from DMC and JICA
- Launching of Comprehensive Disaster Management Study in Sri Lanka
- Activities
- Topics "Grant Aid Project"
- Coming Events

Launching of Comprehensive Disaster Management Study in Sri Lanka

What is JICA Disaster Management Project?

Sri Lanka suffered many natural disasters such as flood, landslide, tsunami etc in the recent few years. The Government of Sri Lanka (GOSL) is making great efforts to strengthen the disaster management system through various activities. Despite of the efforts, GOSL is still facing difficulties to overcome the natural disaster damage such as insufficient structural and non-structural measures against the natural disasters and inadequate capacity for Disaster Management. Under these circumstances, GOSL requested the Government of Japan (GOJ) to implement a study for solving those problems and mitigating the damages and GOJ decided to implement this study.

The overall goal of the study is to mitigate the damage caused by natural disasters in Sri Lanka by strengthening the capacity of related organizations and communities. To achieve the overall goal, the following activities against natural disasters, such as floods, sediment disasters and Tsunami, will be implemented in this study.

- 1) To formulate integrated flood management plans for selected river basins of Kelani, Kalu, Gin and Nilwala
- 2) To support establishing Early Warning and Evacuation (EWE) systems
- 3) To support Community Based Disaster Management (CBDM) activities
- 4) To strengthen capacity of organizations concerned.

The study will encompass the whole of Sri Lanka in Disaster Management, and especially focus on the disaster prone south-western area and the Ampara district that were severely affected by recent disasters.



Signing of Minutes of Meeting

The delegation of the Study team of the Japan International Cooperation Agency (JICA) headed by Mr. Kimio Takeya reached agreement with the Ministry of Disaster Management and Human Rights and related organizations to commence the Study on 25 October 2006. The counterpart organizations are Disaster Management Centre (DMC), Department of Irrigation (DOI), Department of Meteorology (DOM) and National Building Research Organization (NBRO).



Activities

Community Workshop

The 1st Workshop of the 5-time series of Community Workshops using participatory approach were conducted in selected 15 communities. Four more workshops will be organized in the same communities during the Study period. Main objectives of the community workshops are as follows:

- 1) To analyze hazards and vulnerability to disasters of communities.
- 2) To foster common understanding of risks among all the stakeholders of the communities including local residents and government officials.
- 3) To identify problems in the communities and measures to be taken for improving Disaster Risk Management.
- 4) To formulate community Disaster Risk Management plan.
- 5) To promote a "culture of disaster prevention" in the communities.

The 1st workshop specifically aimed at understanding risks of disasters in the respective communities and current situation of community Disaster Risk Management system and response by exposing the participants to a wide range of information on disasters and risk management.



Date	Place (Disaster)
Feb.-01	Gandara South – Matara (Tsunami)
Feb.-03	Kottegoda Suduwella – Matara (Tsunami)
Feb.-10	Helauda – Ratnapura (Landslide)
Feb.-10	Angamma – Ratnapura (Flood)
Feb.-11	Kiribathgala – Ratnapura (Landslide)
Feb.-11	Mudduwa – Ratnapura (Flood)
Feb.-16	Ukwatta – Kalutara (Flood)
Feb.-17	Nagalakanda – Kalutara (Landslide)
Feb.-17	Biyagama – Gampaha (Flood)
Feb.-18	Kittanpahuwa – Colombo (Flood)
Feb.-20	Niggaha – Kalutara (Landslide)
Feb.-24	Ullala – Ampara (Tsunami)
Feb.-24	Baddegama – Galle (Flood)
Feb.-25	Vinayagapuram – Ampara (Tsunami)
Feb.-25	Kadduwa – Matara (Flood)

Counterpart Meeting



Five counterpart meetings were held with related organizations. The objectives of the meetings are

- 1) To share the information about the study.
- 2) To exchange the information related to disaster management.
- 3) To understand the existing disaster management capacity.

Date	Topics
Oct.-27	Disaster Management framework
Dec.-1	Community based Disaster Management
Jan.-30	Early Warning and Evacuation system
Feb.-13	Mitigation of sediment disasters
Mar.-2	Flood management
Mar.-13 (Tentative)	Progress Report

SLDM MIND Newsletter No.1 (March, 2007)
 JICA Study Team
 on Comprehensive Disaster Management in Sri Lanka
 c/o Disaster Management Centre, Room 2-207 BMICH Building
 Baudhaloka Mawatha, Colombo-07, Sri Lanka
 Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk
 URL: <http://www.dmc.gov.lk/jica/index.html>

Topics

Grant Aid Project

JICA also launched another disaster management related project "Improvement of Meteorological and Disaster Information System" by grant aid

The delegation of JICA headed by Mr. Takumi UESHIMA, Resident Representative of JICA Sri Lanka Office reached agreement with the Ministry of Disaster Management and Human Rights on 1st November 2006, to start the study.

The objective of the project is to develop a reliable communication network among the relevant institutions and also improve the meteorological observation and prediction capabilities.

Two projects will be implemented with close coordination to obtain maximum effect of the projects.



Coming Events

- Seminar on Comprehensive Disaster Management will be held at Sri Lanka Foundation on 8th March.
- Implementation of Pilot Project in Kelani River Basin will be started from June.
- 2nd Community Workshop in the 15 communities will be held from May to June.

Second Stage of the Study has Started.

In April 2007, the Second Stage of the Study has started. The anticipated outcomes of the 2nd stage of the Study are;

- Flood Management Master Plans for Kelani, Kalu, and Nilwara River Basin
- Pilot Project for Flood Early Warning in Kelani River Basin, covering procurement and installation of hydro-meteorological observation equipment, communication system establishment and drills for early warning, and
- Community based disaster management plan.

The Second stage of the Study continues until end of this year and all activities will be compiled with the Interim Report which will be published in January 2008.

In This Issue:

- 2nd Stage of the Study Started
- 1st Seminar on Comprehensive Disaster Management
- Early Warning Pilot Project
- Road Map for Disaster Risk Management and the JICA Study
- Activities
- Coming Events

<<Recent Event>>

1st Seminar on Comprehensive Disaster Management

A seminar for awareness raising and capacity development was held on 8 March 2007 at the auditorium of the Sri Lanka Foundation with participants from nearly 80 from relevant organizations. The seminar is the first seminar in a series of three seminars in this Study, and is aimed at sharing and exchanging of knowledge and experience of disaster management both in Sri Lanka and Japan.

The seminar had four technical sessions covering recent disaster management activities in both countries and the three technical components of the Study.

- Session (1) Recent Disaster Management Activities in Sri Lanka and Japan
- Session (2) Flood Management Planning
- Session (3) Early Warning and Evacuation System Planning
- Session (4) Community Based Disaster Management

The sessions were chaired by Sri Lankan counterpart personnel. Each session had two presentations, one each from Sri Lanka and Japan representatives, and was followed by discussions.



Seminar Presentation

<<Topics>>

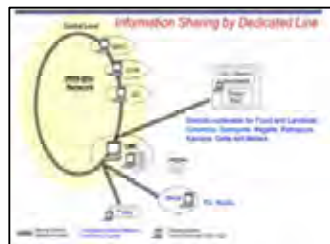
Early Warning Pilot Project

To contribute "A Road Map for Disaster Risk Management" in Sri Lanka, JICA is conducting a Pilot Project for Early Warning. The pilot project covers Establishment of a Hydrological Information System (HIS) and Intra-Governmental Network System (IGN), and Emergency Operation/Evacuation Drill.

Eight DOI (Department of Irrigation) hydrological observation stations in Kelani River basin will be upgraded and selected stations are connected to the DOI headquarters with telemeter system for real-time monitoring. The IGN will connect organizations concerned in disaster management by dedicated line for information sharing and smooth communication. Equipment procurement and system installation will be completed in September 2007.

To make the HIS and IGN effective, the Study Team is going to implement two step Drills, i.e. 1) information transfer drill and 2) evacuation drill. For successful implementation of drills, streamlining of information flow is essential.

To work on the streamlining, the kick-off meeting was held at DMC on 12 June, 2007 with participation of Secretary of Ministry of Disaster Management and Human Rights, DG DMC, and other representative of DOI, DOM and DDMCU.



Hydrological Information System and Intra-Governmental Network



“Road Map for Disaster Risk Management” and the JICA Study

The JICA Comprehensive Disaster Management Study has very close relationship to the “Road Map for Disaster Risk Management” which is a guiding document of disaster management activities in Sri Lanka, and the JICA study contributes to achieve the goal of the “Road Map”.

Chapter 1: Introduction to the Roadmap for a safer Sri Lanka	
1.1	Key Objectives
1.2	The Consultative Process
1.3	Components of the Road Map
1.3.1	Policy, Institutional Mandates and Institutional Development
1.3.2	Hazard, Vulnerability and Risk Assessment
1.3.3	Tsunami and Multi-hazard Early Warning Systems
1.3.4	Preparedness and Response Plans
1.3.5	Mitigation and Integration of Disaster Risk Reduction into Development Planning
1.3.6	Community-based Disaster Risk Management
1.3.7	Public Awareness, Education and Training

Source: Road Map for Disaster Risk Management

JICA Study Components	Contribution to Road Map
1. Integrated flood management planning in Kelani, Kalu, Gin and Nilwala Rivers	HVR-3 Flood Risk Assessment M-2 Flood Protection of Major Cities in Kalu Ganga Basin M-3 Disaster Mitigation Action Plans M-5 National Land Use and Physical Planning Policy
2. Early Warning (EW) and evacuation system planning	E-1 Establishment of the Early Warning Centre of Sri Lanka E-2 Improvement of Meteorological Observation & Prediction Capacities E-3 Improvement of Hydrometric Network for Enhancing Flood Monitoring and Forecasting Capabilities
3. Community Based Disaster Management (CBDM)	Community-based Disaster Risk Management (6th Component of the Road Map)
4. Capacity development of organizations concerned	P-2.1 Reviewing Institutional Mandates for Line Agencies to Perform Disaster Related Activities P-3 Developing Institutional Mandates and Capacities P-14 Encouraging Good Governance within the Ministry

Activities

Community Workshops

The 2nd Workshop of the 5-time series of Community Workshops using participatory approach is on-going in the selected 15 communities. Main objectives of the 2nd workshop are as follows:

- To identify hazardous places and safer places in emergency, and routes for evacuation shelters by town and slope watching process
- To prepare detailed community hazard map incorporating the results of field visit for community based disaster management planning which will be done in the next community workshop



SLDM MIND Newsletter No.2 (June, 2007)
JICA Study Team
on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka
Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk
URL: <http://www.dmc.gov.lk/jica/index.html>

Second Community Workshop Schedule

Date	District	Community	Theme
26 May Sat	Ampara	Ullala Area (Pothuvil)	Tsunami
27 May Sun	Ampara	Vinayagapuram (Thrikkovil)	Tsunami/Storm
02 June Sat	Kalutara	Niggaha	Landslides
	Gampaha	Biyagama	Flood
03 June Sun	Kalutara	Nagalakanda	Landslides
	Colombo	Kittanpahua	Flood
09 June Sat	Ratnapura	Helauda	Landslides
		Angamma	Flood
10 June Sun	Ratnapura	Kiribathgala	Landslides
		Mudduwa	Flood
16 June Sat	Matara	Gandara South	Tsunami
	Galle	Baddegama	Flood
17 June Sun	Matara	Kottegoda Suduwella	Tsunami
	Matara	Kadduwa	Flood
23 June Sat	Kalutara	Ukwatta	Flood

Coming Events

- Implementation of Pilot Project in Kelani River Basin will be started from June.
- Joint workshop on community based disaster management will be held in October. For detailed information please contact jicadmstudy@dmc.gov.lk

Next Issue

- Concept for Flood Management and Hydrological Analysis for flood management planning
- Activities & Topics

Review of Flood Management Master

*SLDM MIND: JICA Sri Lanka Disaster Management Study with DOM, DOI, NBRO and DMC

Plans in Rush (in Second Stage of the Study)

In between May and July 2007, the activities of Component 1 (Flood Management Planning) were progressed aiming at setting of countermeasure options of flood management in the target four river basins (Kelani, Kalu, Gina and Nilwala) by 5 experts. The activities covered the following issues:

- Hydrological and hydraulic analyses,
- Setting parameters for flood management plans,
- Future land use planning in the target river basins,
- Benefit analysis for evaluation of structural countermeasure options, and
- Preparation of alternatives of structural measures for flood management in four river basins (Kelani, Kalu, Gin and Nilwala).

The above results will be compiled with those of the succeeding study, such as cost estimate, project evaluation, implementation schedule and IEE, etc. in the Interim Report, which will be published in January 2008.

In This Issue:

- **Review of Flood Management Master Plans in Rush**
- **Planning Scale of Master Plan for Flood Management**
- **Activities**
- **Counterpart Meetings**
- **Topics**
- **Coming Events**

<<Topics >>

Planning scale of Master Plan for Flood Management

The planning scale of the flood management master plan for the target four river basins has been set based on the (i) hydrological and hydraulic analyses, (ii) flood vulnerability analysis and (iii) future land use plans as follows:

River (km ²)	Present flood protection level (present carrying capacity of channel)	Max flood peak discharge experienced	Future land use presumed	Planning scale
Kelani (2,292)	<ul style="list-style-type: none"> • South Bund: 100-yr of return period (Colombo side) • North bund: 30-yr (Gampaha side) • Stretches without flood bund: 3~5-yr 	60~70-yr (June 1989 flood)	Urbanization in Greater Colombo Metropolitan area will be further sprawled toward suburbs	30-yr (3,400 m ³ /s as design peak discharge at river mouth)
Kalu (2,719)	<ul style="list-style-type: none"> • Ratnapura area: 2-yr • Kalutara: 10-yr 	30-yr (May 2003 flood)	Urbanization of Ratnapura and Kalutara will be progressed. In other areas in the river basin, development of industrial and residential areas in Horana is presumed.	30-yr (2,300 m ³ /s as design peak discharge at river mouth)
Gin (932)	<ul style="list-style-type: none"> • Stretches with flood bund: 20-yr • Stretches without bund: 2~5-yr (Pumping facilities have capacity of equivalent 10-yr discharges) 	20-yr (May 2003 flood)	As regional center, urbanization of Galle area will be progressed. However, as a whole, future land use will not be drastically changed from present status (agriculture based land use)	30-yr (2,150 m ³ /s as design peak discharge at river mouth)
Nilwala (971)	<ul style="list-style-type: none"> • Stretches with flood bund: 10~20-yr 	20-yr (May 2003 flood)	As regional center, urbanization of Matara area will be progressed. However, as a whole, future land use will not be drastically changed from present status (agriculture based land use)	30-yr (2,200 m ³ /s as design peak discharge at river mouth)

Activities (Component 1)

◆ Hydrological and Hydraulic Analyses

In succession of preparation of River Basin Model in four river basins, the hydrological and hydraulic analyses were continued to estimate probable flood peak discharges and to assess effects of proposed structural measures. Based on the results, inundation maps were prepared in the four river basins and utilized to decide the scale of proposed structures.

◆ Analysis of Damage Reduction Benefit

Analysis of flood damage reduction benefit was carried out in order to assess the countermeasure options from economic point of view. The expected flood control benefit was estimated as reduction of flood damage such as house and household property, agricultural crops (particularly paddy), infrastructure and business operation, etc. by corresponded magnitude of floods.

◆ Future Land Use Planning

Future land use of the four river basins were examined based on the land use zoning plan and/or structural plan including identification of wet lands, which might have important function of reduction of peak discharges. Those data of Province and District levels concerned were collected through UDA.

◆ Formulation of Flood Management Planning

In order to achieve the safety level of flood management as shown in the front page in this Newsletter, structural countermeasure options were prepared for the target river basins. The conceptual design drawings of those structures were prepared. Further, non-structural measures such as flood warning and evacuation system, land use control of wet/low lying areas, flood fighting, promotion of water resistant architectures, etc. were examined.



Proposed Structural Measures in Kelani (tentative)

Counterpart Meeting (for Component 1)



Two counterpart meetings (2nd and 3rd) for Component 1 were held with personnel concerned of Disaster Management Center and Irrigation Department. The objectives of the meetings are:

- 1) To share the information about the study.
- 2) To exchange the information related to disaster management.
- 3) To understand the existing disaster management capacity.

Date	Topics
Jun.19 (2 nd)	Basic concept and setting planning parameters of flood management master plan
Jul.13 (3 rd)	Structural and non-structural countermeasure options in target four river basins

In the both meetings, active discussions were conducted and the suggestions will be further considered in the succeeding analyses of the Study.

Topics

Installation of River Basin Model

JICA Study Team has installed a series of river basin models for Kelani, Kalu, Gin and Nilwala, which were originally developed through the current Study, at personal computers in Planning Division, DOI Central Office in Colombo. It was conducted as one of activities of technical knowledge transfer through on the job-training. It is expected that the models (created by MIKE11 software) will contribute to further elaborate and update in flood analyses of the said river basins.

Coming Events

- Finalizing of Flood Management Plan and selection of priority projects among structural countermeasure options
- Installation of Pilot Project Equipment for Kelani River basins will start in the beginning of September.
- 3rd Community Workshop in the 15 communities and preparation of Disaster Management Plans
- Joint Workshop on Community Based Disaster Management will be held soon.

SLDM MIND Newsletter No.3 (August, 2007)

JICA Study Team

on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka

Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk

URL: <http://www.dmc.gov.lk/jica/index.html>

*SLDM MIND: JICA Sri Lanka Disaster Management Study with DOM, DOI, NBRO and DMC

Disseminating Disaster Information for Creating Safer Community

Disseminating proper disaster information is a key to mitigate damages of natural disasters and indispensable to create safer Sri Lanka. To disseminate proper disaster information in timely manner, all organizations concerned have to play their role properly.

In the course of the JICA Comprehensive Study on Disaster Management in Sri Lanka, various activities are being carried out from national to local level government organization and communities to enhance the disaster information transferring capability.

This issue of SLDM MIND features the activities related to disseminating disaster information for creating safer Sri Lanka and community..

In This Issue :

■ Disseminating Disaster Information for Creating Safer Community

- Information Transfer Exercise
- Early Warning Pilot Project
- Community Level Disaster Management Planning

■ Coming Events

Information Transfer Exercise

The first government level disaster management exercise in Sri Lanka was conducted on October 16, 2007. Disaster Management Centre (DMC), Department of Irrigation, Department of Meteorology, National Building Research Organization, Police, District Secretariat and District Disaster Management Coordinating Unit (DDMCU) of Colombo and Gampaha, Divisional Secretariat (DS) of Kolonnawa and Byagama, and G.N. (Grama Niladari) of Kittampahuwa and Malwana Town participated to the exercise. The exercise was focused on how disaster information is properly transferred from national level to G.N. Level.

JICA Study Team provided technical support for the exercise implementation. The Japanese experts on disaster management participated the exercise from the preparation stage, and provided various knowledge acquired from the past Japanese experience in similar exercises in Japan.

For preparation of exercise, series of meetings were held with participating organizations to discuss and establish the proper information flow and information transfer procedures under current institutional framework. Based on the established information flow and procedure, the exercise was conducted with an assumed situation of dangerous flood occurred in 1989 in Kelani Ganga basin to check the effectiveness and efficiency of accurate information transferring system.

During the exercise, the information was properly transferred from the national to G.N. level and the appropriateness of information transferring was confirmed. However, during the evaluation meeting which was held just after the exercise, some gaps to be improved were identified, e.g. standardization of wording for disaster information and reporting sheet, necessity of checklist for activities and technical issues on information transfer method.

DMC and JICA Study Team expect to continue this kind exercise during the study period and expand the exercise to other river basins and other types of disasters to create peoples safety.



Preparing Disaster Information at Emergency Operation Center (EOC), DMC (Left)

Writing activity log on white board at EOC, DMC (Bottom)

Discussion for preparing an evacuation instruction at Gampaha DDMCU (Bottom)



Kick-off meeting at DDMCU Gampaha (Bottom)



Information flow diagram for exercise (Left)

Exercise Manual (Bottom)



Exercise Participants (Left)

Early Warning Pilot Project

Transferring and sharing precise and timely disaster information, Hydrological Information System (HIS) and Intra-Governmental Network System (IGN) are being set up as a part of the Study Activities.

The HIS provides hydrological information in Kelani River Basin in real-time basis and IGN connects organizations concerned in disaster management by dedicated line for information sharing and it helps smooth dissemination of disaster information.

System establishment for both systems are going to be completed end of October 2007 and starts its operation in the beginning of November 2007.



Servers and PCs for HIS installed in the Hydrology Division of Irrigation Department (Left)



Water level gauge at Nagalagam St., Battery and Data Logger, Solar Panel (Left October, 2007)

Activities

Community Workshops

The 3rd Workshop of the 5-time series of Community Workshops has started. The community leaders who participated to the Joint Community Workshop led the workshop which has the following objectives.

- To formulate the community level disaster risk management plan
- To establish preparation group for disaster management exercise which will be held at 4th Community Workshop

3rd Community Workshop Schedule

Date	District	Community
12 Oct. Sun	Kalutara	Ukwatta
27 Oct. Sat	Matara	Gandara South
	Galle	Baddegama
28 Oct. Sun	Matara	Kottegoda Suduwella
	Matara	Kadduwa
03 Nov. Sat	Ratnapura	Helauda
		Angamma
04 Nov. Sun	Ratnapura	Kiribathgala
		Mudduwa
		Gampaha
10 Nov. Sat	Kalutara	Niggaha
	Gampaha	Biyagama
11 Nov. Sun	Kalutara	Nagalakanda
	Colombo	Kittanpahua
17 Nov. Sat	Ampara	Ullala Area (Pothuvil)
18 Nov. Sun	Ampara	Vinayagapuram (Thrikkovil)

Community Level Disaster Management Planning

To bridge the missing link of disaster information flow between government and community, community level information dissemination procedure will be discussed in the Community Level Disaster Management Planning Activities.

Two community based workshops were held at 15 selected communities where prone to floods, landslides and tsunamis. During the workshops, the community people have identified hazardous areas, resources and evacuation routes and places by DIG and "Town Watching", and are ready to formulate a community disaster management plan in the 3rd Workshop. The plan will cover an information flow from local government to community people, a plan for evacuation, a plan for necessary actions in the community and a plan for community level exercise which will be held in the 4th Workshop.

To promote the activity, Joint Community Workshop was held inviting representative of 15 communities, G.N.s, representative of DSs and representative of DDMCU on October 19, 2007 in Colombo.

The details of the community based activities will be featured in the next issue of SLDM MIND



Plenary Discussion at Joint Community Workshop (Left)

Group discussion (Bottom Left)

Presentation of group discussion results (Bottom Right)



Coming Events

- October – November, 2007: 3rd Community Workshop on disaster management
- January 2008: Submission and Explanation of Interim Report
- February 2008: 2nd Capacity Development Seminar and Disaster Information Transfer Drill
- February 2008: Community based disaster management drill in 4th Community Workshop

Next Issue

- Community Level Disaster Management Planning and its Activities
- Activities & Topics

SLDM MIND Newsletter No.4 (October, 2007)

JICA Study Team

on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka

Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk

URL: <http://www.dmc.gov.lk/jica/index.html>

JICA Study Team continues to cooperation with DMC in 2008

The JICA Comprehensive Study on Disaster Management in Sri Lanka in 2008 has started. JICA team continues to cooperate and gives technical assistance to DMC and other counterpart organizations.

In 2008, various activities will be conducted at national to local level government organizations and communities to enhance the coping capacity of disaster management.

This issue of SLDM MIND features the outline of the project and schedule in 2008, and the 2nd Capacity Development Seminar held in February 5, 2008, including outcomes of the discussion and presentation about disaster management issues.

In This Issue:

- JICA Study Team continues to support DMC and counterpart organizations in 2008
- Capacity Development Seminar
 - Progress of JICA Study
 - Discussion about disaster management issues
- Coming Events

Project Schedule in 2008

The JICA Comprehensive Study on Disaster Management in Sri Lanka started the activities in 2008. The JICA Study targets different types of natural disasters: Flood, Landslide and Tsunami and continues to provide the technical assistance to strengthening the capacity of disaster management related organizations and communities through various activities such as formulating the plans for flood management and early warning and evacuation systems, technology transfer by day-to-day activities, CBDM activities, Disaster Management (DM) exercise, seminars and workshops.

There are four main components in the JICA Study, such as 1) Flood Control, 2) Early Warning and Evacuation (EWE), 3) Community Based Disaster Management (CBDM) and 3) Capacity Development (CD), and several activities are planned to be conducted in 2008 to accomplish the objective of the Study. The Study is also linked to the Grant Aid Project for up-grading of weather monitoring.

Activities of each component are summarized in Figure (flow) and Table (schedule) in 2008:

Component 1: Flood Control

- Make the action plan for priority river basin
- Finalize the Flood management plan for four selected river basins of Kelani, Kalu, Gin and Nilwara.

Component 2: Early Warning and Evacuation

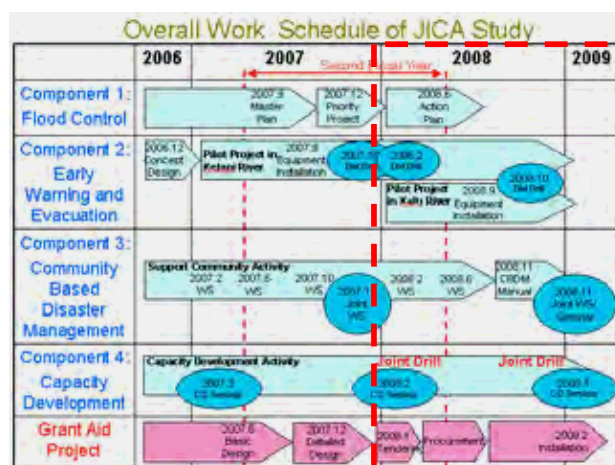
- Conduct DM exercise
- Conduct pilot project in Kalu river (installation the equipment)
- Finalize the EWE plan

Component 3: Community Based Disaster Management

- Conduct Community Workshops
- Prepare the CBDM plan
- Make Community Based Disaster Management manual for expanding the CBDM activities
- Conduct a Joint Community Workshop

Component 4: Capacity Development

- Conduct day-to-day CD activities
- Conduct CD Seminars and Workshops



Schedule for 2008

Month	Activity
Feb.	<ul style="list-style-type: none"> • 2nd Seminar on Capacity Development on Disaster Management • Disaster Management (DM) Exercise in Colombo, Gampaha, Ratnapura with selected communities
Mar.	<ul style="list-style-type: none"> • Review and Evaluation of DM Exercise
Apr.	<ul style="list-style-type: none"> • Internal exercise at EOC/DMC, GSMB, Irrigation, Meteorology Dept and NBRO
May	<ul style="list-style-type: none"> • 4th Community Workshops
Jun.	<ul style="list-style-type: none"> • 4th Community Workshops (continue) • Role Play Exercise for Disaster Management Committee (in Kandy)
Aug.	<ul style="list-style-type: none"> • 5th Community Workshops
Sep.	<ul style="list-style-type: none"> • 5th Community Workshops (continue)
Oct.	<ul style="list-style-type: none"> • DM Exercise (Information Transfer and Evacuation Drill) • Review and Evaluation of DM Exercise
Nov.	<ul style="list-style-type: none"> • 2nd Joint Community Workshop • Seminar on Promotion of CBDM
Dec.	<ul style="list-style-type: none"> • National Safety Day
2009 Jan.	<ul style="list-style-type: none"> • Draft Final Report Presentation • 3rd Seminar on Capacity Development on Disaster Management

(Tentative, subject to change)

Capacity Development Seminar

The Capacity Development Seminar on Disaster Management was held in February 5, 2008 at Trans Asia Hotel, organized by DMC and JICA Study Team.

The seminar was opened by an oil lamp ceremony followed by the Welcome address given by Major General Gamini Hettiarachchi, Opening remarks given by Ms. Noriko Suzuki of Resident Representative of JICA Sri Lanka office and Keynote address by Mr. Peter Dias Amarasinghe of Secretary of MDMHR.

The seminar composed of two sessions presenting the progress of JICA Study and discussing the issues of sustainable implementation of disaster management.

Session 1: Progress of JICA Study

The progress of JICA Study was presented and explained on:

- Flood management planning
- Early warning and evacuation system planning
- Community based Disaster management Activities

Session 2: Discussion of disaster management issues

For its implementation, two main issues were raised and discussed followed by a presentation of Japanese experience to overcome issues by Mr. Suzuki of JICA.

The participants were divided into two groups and discussed key issues and implementation schedule. After the group discussion, each group's outcomes were presented and discussed among participants.

Group A: Key issues for Flood Management:

- Policy/Legal framework for resettlement and land acquisition
- Preparation of practical hazard maps
- Effective coordination with other related agencies concerning flood management

Implementation schedule with milestone activities were prepared during the discussion and presented as outcomes of discussion, and this group concluded that coordination among stakeholders are important. DOI will continue to establish the coordination network of the stakeholders.

Group B: Key Issues for Exercise Planning:

- Role allocation of concerning organizations
- Manual preparation
- Plan preparation
- Issues to be solved for implementation of the plan

The schedule for manual preparation and review of manual, and DM exercise were discussed targeting year 2008 and 2009. DM exercise will be conducted in landslide, flood and tsunami areas. The manual will be reviewed every time after the DM exercise.

Followings are main points of discussion about manual;

Why is the manual necessary?

- To define the roles and responsibilities of individual organizations during a disaster

What should be defined in the manual?

- Immediate actions to be taken by relevant organizations and its officials at different stages
- Standard formats
- List of organizations to be contacted

Why is internal and inter-organizational manual necessary?

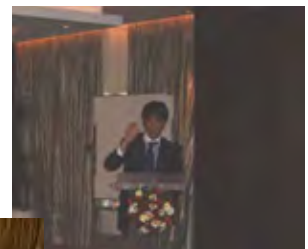
- To get prepared within the organizations
- For better coordination with other organizations and within the organizations

Finally, this group concluded that issues to be solved for implementation are:

- Raise awareness
- Provide good equipments
- Allocate required funds
- Complete Intra-governmental network



Welcome address by Major General Gamini Hettiarachchi



Presentation by Mr. Suzuki of the JICA Study Team



Group discussion
Group A (left)
Group B (bottom right)



Q&A and discussion session after the group work

Coming Events

- Disaster Management Exercise
- Launching the Information Network

Next Issue

- 2nd Disaster Information Exercise
- Community Exercise

SLDM MIND Newsletter No.5 (February, 2007)

JICA Study Team

on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Baudhaloka Mawatha, Colombo-07, Sri Lanka

Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk

URL: <http://www.dmc.gov.lk/jica/index.html>

*SLDM MIND: JICA Sri Lanka Disaster Management Study with DOM, DOI, NBRO and DMC

Disaster Management Exercise from Government to Community Level

The Disaster Management (DM) Exercise from the government level to community level and evacuation drill in selected communities were conducted on February 26, 2008.

Proper action by each organization and coordination among all the concerning organizations are the key for proper disaster information transfer. Quick information dissemination to people in the community and actions among the people can reduce the disaster risks in the community level. Learning lessons from 1st DM exercise, DMC took a lead for this 2nd DM exercise. The JICA Study Team for Comprehensive Study on Disaster Management supported and evaluated the exercise.

This issue of SLDM MIND features DM Exercise including evacuation activities in community level and evaluation meeting after the exercise.

In This Issue :

- **Disaster Management Exercise**
 - **Information Transfer Exercise**
 - **Community Level Evacuation Drill**
- **Coming Events**

Information Transfer Exercise

The 2nd disaster management exercise in the JICA Study was conducted on February 26, 2008. At this time, the exercise was composed of two parts of 1) Information Transfer Exercise to confirm the information transfer procedures from national level to GN level, and 2) Community Level Evacuation Drill to confirm the information transfer from G.N level to community people and evacuation activities which were discussed in the community workshops in the previous stage of the JICA Study.

Government Agent and District Disaster Management Coordinating Unit (DDMCU) of Colombo, Gampaha and Ratnapura, related Divisional Secretariat (DS) of Kolonnawa, Byagama and Ratnapura, Police, GN of Kittanpahuwa, Malawana Town, Helauda and Anganmana, and the community people participated in the exercise.

To conduct the exercise, the exercise scenario was set as "there was a danger of flood in Kelani and Kalu rivers, and landslide in Ratnapura district".

In line with the scenario, in this exercise, the disaster warning and the evacuation instruction were prepared by DMC and DDMCU based on the information from Department of Meteorology, Department of Irrigation and National Building Research Organization, and it was transferred to Police, DS and GN.

Prior to the exercise, the series of preparation meetings were held. During the meetings, DMC took a lead and discussed the DM manual and information transfer flow, and it was improved by incorporating the lessons learned from the previous exercise that was held in October 2007, and. Also, together with GN, DMC informed people in the community about the evacuation drill and encouraged their participation.

During the exercise, the information was properly transferred from the national level to GN level and, appropriate information transfer was confirmed. However, there were several shortcomings that were pointed out by the participated organizations that were discussed in the evaluation meeting (see back side).

JICA Study Team provided technical support to the exercise implementation and also evaluated the performance of participated organizations for further improvement.



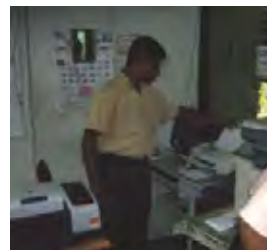
Disaster Information was received at EOC of DMC



Taking note of received message



Transferring the message to DDMCU



Receiving a fax message at DDMCU



Preparing the situation report in Ratnapura DS



Group discussion with GN about information dissemination

Q&A and discussion for the exercise in the preparatory meeting



Evacuation Activity in Community

Evacuation activity in the community was conducted in Kittanpahuwa, Kolonnawa DS in Colombo district, Malawana town, Biyagama DS in Gampaha district, Helauda and Anganmana, Ratnapura DS in Ratnapura district. These communities were selected based on the active participation in the JICA Study Workshop and having well-organized Community Level Disaster Management Committee. During the workshop, evacuation route & place, and means of disseminating disaster information were discussed.

The evacuation activity in the community level started with a receiving the evacuation instruction from Divisional Secretariats to GN. GN informed the evacuation instruction to members of DM committee. DM committee members disseminated information to the community. Several tools such as mobile phone, temple bell, speaker and verbal communication were used to disseminate the evacuation instruction.

Around 11AM people started to evacuate and it took about 30-40 minutes for all the participants of the community to arrive in the evacuation place. After the evacuation exercise, people discussed about the exercise and necessary improvements for meeting an actual situation.



GN informing members of committee in Helauda



GN received evacuation instruction and writing down the instruction in Angammana



Member of committee writing names who arrived in the evacuation place (left)



Explanation and discussion about evacuation exercise in Malawana Town (top), Kittampahua (middle), Angammana (bottom)



First AID demonstration

Evaluation Meeting about Exercise

The Information Transfer Exercise and Community Level Evacuation Drill were successfully completed. From the result of the exercise, information flow from national level to community people was confirmed, and it also confirmed that it is an effective way for evacuation activity.

After the exercise, the evaluation meeting was held in DMC on the same day. Most of the participated organizations presented and shared their experiences, improvements, shortcomings and necessary actions to be taken for the future in the meeting. Also, evaluators explained their impression of the exercise and pointed their observations of each organization.

Major outcomes of the DM exercise and evaluation meeting were:

- Improvement of message is required (language, length, format and contents of message).
- Means of communication should be reconsidered (Mal function of fax machine, advantage of mobile phone, landline, expanding of intra-government network, and etc.).
- Time of processing the information could be improved (typing, letterhead and etc).
- G.N. and community have a good communication and they are well prepared for disaster event

Through the exercise, concerning organizations increased their capacity of processing the information and recognized the importance of coordination. Based on the outcomes of this meeting, further improvement of the manual and coordination with related organizations will be made for targeting next exercise.



Evaluation meeting, sharing improvements from 1st exercise and shortcomings

Coming Events

- Joint Evaluation Meeting of DM Exercise
- Launching of Intra-Government Network and Hydrological Information System

Next Issue

- Intra-Government Network and Hydrological Information System

SLDM MIND Newsletter No.6 (March, 2007)

JICA Study Team

c/o Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka

Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk

URL: <http://www.dmc.gov.lk/jica/index.html>

Community-based Disaster Risk Management Activities

Enhancing capacities of communities for disaster risk management is one of very important aspects for reducing negative impact of disasters. The activities aiming at strengthening their capacities has been conducted in the JICA Comprehensive Study on Disaster Management since October 2006.

The activities have been conducted in the selected 15 pilot communities in close cooperation with the Disaster Management Centre (DMC). For ensuring sustainable community activities, initiatives of DMC and appropriate system should be considered. The activities in 2008, as final stage of the Study, will be conducted focusing on capacity development of related organizations for sustainability of community activities for disaster risk management.

This issue of SLDM MIND features Community-based Disaster Risk Management Activities in the Study Program.

In This Issue :

■ Community-based Disaster Management Activities

- General outline
- Community workshops
- Other activities

■ Coming Events

General Outline

[Purpose]

The purpose of the community activities in the Study is to strengthen the capacity of related organizations and communities.

[Main Objectives]

The main objectives of the activities are:

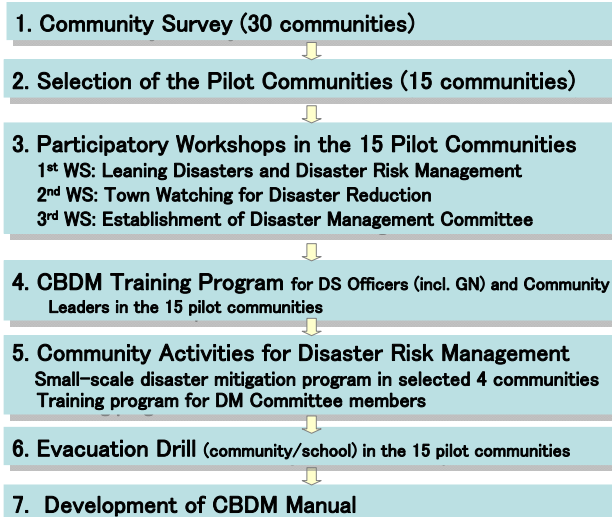
- to analyze hazards and vulnerability to disasters of communities;
- to foster common understanding of risks among all the stakeholders of the communities including local residents and government officials;
- to identify problems in the communities and measures to be taken for improving disaster risk management;
- to formulate community disaster risk management plan; and
- to promote a "culture of disaster prevention" in the communities.

[Target Communities]

The following 15 communities are the target for the pilot activities.

Main target disasters	Target areas	Target Communities
Flood	Kelani River basin	Kittanpahua (Colombo), Malwana (Gampaha)
	Kalu River basin	Angammaana & Mudduwa (Ratnapura) Ukwaatta (Ratnapura)
	Gin River basin	Baddegama (Galle)
	Nilwala River basin	Kadduwa (Matara)
Sediment Disasters	Ratnapura District	Helauda, Kiribathgala
	Kalutara District	Nagalakanda, Niggaha
Tsunami	Matara District	Gandara South, Kottegoda Suduwellla
	Ampara District	Ullala Area, Vinayagapuram

[Flow of the Activities]



[Activities in 2006]

In the beginning of the activities, a community survey in the 30 disaster (flood, landslide and tsunami) vulnerable communities was conducted for the purpose of getting baseline information of disasters and disaster risk management situation in communities.



Questionnaire survey was conducted by interview

The result of the survey showed that communities need more proper understanding of disaster mechanisms and importance of preparedness for disasters.

Besides, based on the survey result, the 15 communities are selected as target for pilot activities and basic program for community activities was decided.

Community Workshops

Community workshops were conducted three times in each of the 15 pilot communities in February, May-June, October-November 2007.

The **first workshop** was aiming at 1) enhancing community people knowledge of disaster mechanisms, and 2) improving of understanding risks in their own communities.



Lectures for learning of disasters and disaster risk management and practical work for understanding disaster risks using DIG (Disaster Imagination Game) were provided in the program. The participants of the workshop created community maps based on their knowledge.

In the **second workshop** conducted in May-June 2007, the community people walked around their own town in the viewpoint of disaster risk management. They added information gained through observation on the community map created in the first workshop. Besides, they discussed what should be improved or what is important for reducing disaster damage in their own communities. Through the discussion, they proposed some points to be improved, such as establishment of reliable early warning system to deliver prompt information to community and improvement of drainage management.



"Town Watching" to know own community's risk



Hazard Mapping based on the observation



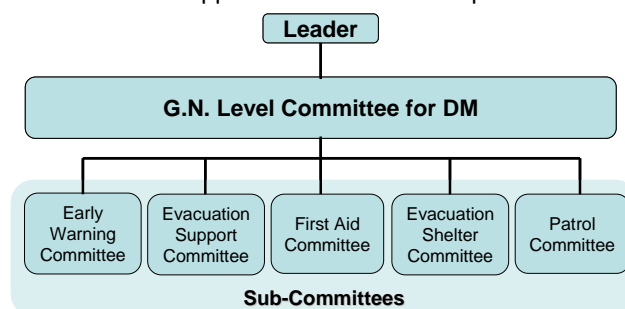
Discussion for problem, solution, action to be taken

Simple Rain Gauge Installation



The **third workshop** was conducted from October to November 2007. Main purposes of the workshop were to establish GN level disaster management committee and to make clear of the information flow to disseminate early warning message.

The participants in the workshop discussed the roles of each of sub-committees in the GN level committee. In some communities, members of the committee were appointed in the workshop.



Besides, the participants decided information flow centered on the early warning sub-committee members for delivering message to community members.

The effectiveness of committee's activities and information flow discussed in the workshop will be testified in the evacuation drill and modified to more appropriate way for their communities.

Activities in 2008

The following CBDM (Community-Based Disaster Management) activities are scheduled in 2008.

- CBDM training program for DS officers and community leaders (for 15 pilot communities)
- Small-scale disaster mitigation program for selected flood and sediment disaster prone communities
- Evacuation drill combined with comprehensive disaster management exercise
- Training program for GN level disaster committee members
- Development of CBDM manual

Coming Events

- Capacity Development Workshop for Sub-National Level Government Officers (June 3)
- Tabletop Information Transfer Exercise (July, 2008)
- CBDRM Training Program (July 15-16, 2008)
- Community Workshops (July-Oct. 2008)
- Joint Disaster Management Exercise (Oct. 2008)

Next Issue

- Hydrological Network and Intra-Governmental Network for Disaster Management

SLDM MIND Newsletter No.7 (May 2008)

JICA Study Team

on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka

Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk

URL: <http://www.dmc.gov.lk/jica/index.html>

*SLDM MIND: JICA Sri Lanka Disaster Management Study with DOM, DOI, NBRO and DMC

Planning of Countermeasures for Flood Disaster by JICA Study

There were three flood disasters from April to July 2008. These floods were severe floods next to the flood in 1999 in Kelani and 2003 in Kalu. Especially in Kalutara district, May-June flood was worse than the flood in 2003. The JICA Comprehensive Study on Disaster Management has been conducting the planning of structural and non-structural measures for Kelani, Kalu, Gin and Nilwara rivers to minimize the damage by flood.

Policy of the planning has been already explained in SLDM MIND No.3. This issue of SLDM MIND features the proposal by JICA Study, and the introduction of Early Warning and Evacuation (EWE) System Planning as one of the most important non-structural measures for flood disaster, and the result of Workshop on EWE system based on the experience of last floods.

In This Issue:

- Proposing Flood Control Master Plan
- Early Warning and Evacuation System Planning
- Series of CBDM Workshops
- Coming Events

Proposing Flood Control Master Plan

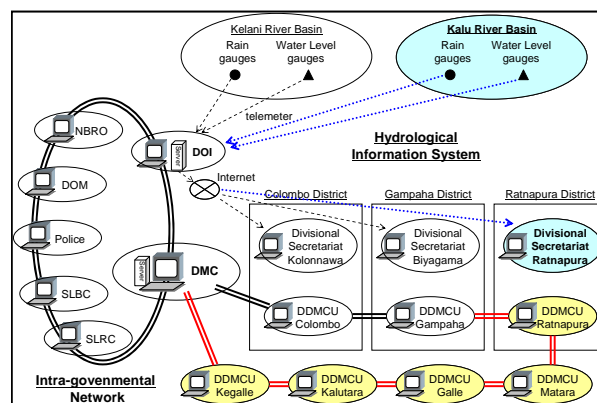
Through a number of meetings with Disaster Management Centre (DMC) and Department of Irrigation (DOI), the flood control master plan for Kelani, Kalu, Gin and Nilwara river has been prepared and proposed. Summary of the plan is shown below and the policy of planning was written in SLDM MIND No.3. More details were written in the Interim Report of the Study submitted on last December and the plan will be finalized in the Draft Final Report prepared by January next year.

Summary of Master Plan

River Name	Master Plan Components
Kelani	<ul style="list-style-type: none"> • Flood Bund • Sluices for minor flood protection • Major Flood Retarding Area
Kalu	<ul style="list-style-type: none"> • Flood Bund (downstream/Ratnapura) • Flood Wall (Ratnapura) • Sluices and Pumps for minor flood protection
Gin	<ul style="list-style-type: none"> • Flood Bund • Rehabilitation of Existing Pumping Stations
Nilwala	<ul style="list-style-type: none"> • Flood Bund • Rehabilitation of Existing Pumping Stations
All	<ul style="list-style-type: none"> • Early Warning System • Landuse Regulation • Institutional Strengthening

[Hydrological Information System in Kalu and Expansion of Intra-Governmental Network]

In addition to the hydrological information system in kelani, system in kalu is being installed. Regarding the intra-governmental network, District Disaster Management Coordination Unit (DDMCU) of Kegalle, Ratnapura, Kalutara, Galle and Matara will be connected to existing network.



Overview of Pilot Project



Hydrological Information System in Kalu

Early Warning and Evacuation System Planning

Early Warning and Evacuation (EWE) system planning for multi-hazard is one of the components of JICA Study, and the establishment of EWE system for flood is included in the flood control master plan.

Parts of the EWE system for flood in Kelani and Kalu are being conducted in the JICA Study as "Pilot Project". Some principal rules, such as the role allocation of related organizations and information flow are discussed, and these rules are evaluated through exercise. Pilot project in Kelani and exercise are introduced in SLDM MIND No.2, 4, and 6.

[Workshop on Flood Early Warning]

Workshop on Flood Early Warning was held on July 3rd 2008. The participants were the staff of DMC head office and the coordinator and staff of selected 7

DDMCUs. The objectives of this workshop are;

- 1) to know good and bad experiences during flood.
- 2) to share such experiences.
- 3) to discuss on the issues and countermeasures
- 4) to enhance the knowledge of DMC staff through the activities

The contents of this workshop are;

- Presentations on the characteristics of last flood disaster by Department of Meteorology (DOM) and DOI.
- Group Work 1 "Preparation of Inundation Map by each District": Inundated area and impassable roads and their order of inundation etc. were marked on the GN division level map. Staff of each DDMCU conducted presentation on the flood conditions and their activities during flood time using this map.



Group Work 1 "Preparation of Inundation Map"

- Presentation on the issues on the last flood disaster.
- Presentation on the good practice on the last flood disaster and ideas to overcome issues.
- Group Work 2 "Discussion on countermeasures": Issues and countermeasures for "Preparedness", "Information Dissemination" and "Enhancement of people" were discussed and presented by staff of each DDMCU.



Presentation on issues

Discussion on countermeasures

Series of CBDM Workshops

As it is introduced in SLDM MIND No.7, several CBDM activities are planned for selected 15 communities. There were three activities in July.

[School Program in Kalutara]

Workshop for school children was conducted on July 8th at Palinda Nuwara, kalutara district. This area was severely damaged by the May-June flood. About 200 school children participated in this workshop.

In the morning, there were presentations by DMC, DOM, DOI and NBRO regarding disaster management,

tsunami, flood and landslide. In the afternoon, children visited the site of recent landslide by bus.



Participants in the workshop

[Workshop on installation of water level gauge]

Water level staff gauge will be installed at two communities in Kittampahua and Malwana town to monitor the water level of Kalani river by community people. Objective of installation, location of gauge and role allocations for monitoring are discussed at the workshop held on July 12th.



Presentation by Study Team

Location of gauge (Kittampahua)

[2days Joint Workshop]

2 days workshop was held from July 15th to 16th inviting 3 to 5 people related to the selected 15 communities, such as officers from Divisional Secretariat office, GN and community leaders.

Some capacity enhancement programs were conducted and community hazard maps were finalized.



Game "Cross Road"

Coming Events

- Capacity Development Workshop for Sub-National Level Government Officers (September)
- Joint Disaster Management Exercise (October)
- Community Workshops (July-October)
- CBDM Seminar (November)

Next Issue

- Capacity Development Activities

SLDM MIND Newsletter No.8 (August 2008)

JICA Study Team

on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka

Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk

URL: <http://www.dmc.gov.lk/jica/index.html>

Community-based Disaster Risk Management Activities No.2

As featured in SLDM MIND No. 7, the JICA Comprehensive Study on Disaster Management has been conducted several workshops and activities aiming at strengthening local capacities in 15 pilot communities since October 2006.

Through three community workshops conducted in 2007, the people in the pilot communities made a plan to take an action to strengthen their community. JICA Study Team decided to provide technical and financial resources to conduct small-scale disaster mitigation programs in several communities and training programs for the pilot communities. This issue features the disaster mitigation programs and other community-based activities as outcomes "from plan to action" of community workshops.

In This Issue :

■ Community-based Disaster Management Activities

- Small-scale CBDM Activities
- First Aid Training
- School DM program
- Other activities

■ Coming Events

Small-scale Disaster Mitigation Programs (sediment disaster prone communities)

Through three community workshops conducted in 2007, the people in the pilot communities vulnerable to sediment disasters in Rathnapura learned their risks and how to mitigate damage caused by disasters. They developed plans to improve current situation and proposed some mitigation measures for preparing future disasters. Mahawela (called Helauda) and Gamekanda, Wanniyawatte (called Kiribathgala) in Rathnapura were selected as the potential sites to implement small-scale damage mitigation program for sediment disasters.

DMC, NBRO and the JICA Study Team decided to provide technical and financial resources to conduct the mitigation programs for both communities.

[Helauda- Rehabilitation and Maintenance of Drainage Canal in Mahawala in September]

Community in Helauda proposed to restore a drainage canal to improve the drainage condition in the area, which is effective to reduce the landslide risk. NBRO, DS, Municipal Council and DDMUC gave a technical support for rehabilitation of the drainage canal. The mitigation program was conducted by residents' active involvement. The people in the community cleaned up the drainage by sweeping out stones and sludge to maintain the drainage canal for appropriate condition. Vice mayor of Rathnapura participated in the opening session to congratulate a good practice of community efforts to reduce the disaster risks.



Helauda project site (A groundbreaking ceremony)

[Kiribathgala- Improvement of Safe Evacuation Routes in Gamekanda, Wanniyawatte in September]

Community in Kiribathgala proposed to construct a bridge and a crossing for securing evacuation routes from the risk areas of sediment disaster in the community. JICA Study Team supported the construction of the crossing and improvement of access pathway for the evacuation routes based on the technical consideration of safe land condition. In the meanwhile, DMC and UNDP decided to support construction work of the proposed bridge. Construction of bridge and pathway will be constructed and completed by the community by December 2008. This improvement of evacuation route ensures the safe evacuation for the residents who are living in the risk area in case of heavy rain and disaster situation.



Kiribathgala project site: Crossing- before (left) and after (right)

One day First Aid Training for GN Level DM Committee at each District

The JICA Study team recognized that the GN level disaster management committees need enhancing their technical knowledge, but at the same time those community have strong will to conduct activities by themselves. To make GN level disaster management committee more active and provide proper technical information of first aid to the committee members, the First Aid training program was conducted for the 15 pilot communities: Kattanpahua, Malwana, Anganmana, Helauda, Kiribathgala, Mudduwa, Niggaha, Nagalakanda, Ukuwatta, Kadduwa, Gandara South, Kottegoda Suduwella, Baddegama. *The training for Ullai and Vinayagapuram in Ampara will be conducted in November.

In the First Aid training, experts of Red Cross or St. John Ambulance gave a lecture including demonstration and practical exercises. The community members learned basics for treating the injured and participated in the exercise to use the First Aid kits and tools.



First Aid Training for the Committee members

Consultative Meeting on Flood Bund

The people in the Kadduwa, one of the pilot communities vulnerable to flood disasters in Matara learned their risks and needs of mitigate the damage caused by flood through the community workshops. However, in the due course, workshop organizing team of DMC and the JICA Study team realized that there is a big controversial issue on flood bund (BR16) among the residents of upstream and downstream. Therefore, the organizing team decided to hold consultative meetings inviting representatives of residents in both upstream and downstream, and a DOI officer who explained the current flood protection system and future improvement plan of DOI and Sri Lankan



2nd Consultative Meeting (left)/ 3rd Consultative meeting (right)

Government.

The consultative meetings were held in steps as shown in the below table. The third meeting was coordinated by District Secretary. The meetings were very good opportunity for the people in the communities situated in flood risk areas to discuss comprehensive solution for flood disasters in the catchment areas of the Nilwala River.

No./Date	Participants
1 st Meeting (September 1)	Representatives of residents in the area of downstream
2 nd Meeting (September 11)	Representatives of residents in the area of upstream
3 rd Meeting (September 26)	Both residents of upstream and downstream and more wider participation

School DRM Program with Participation of Community Members

School Disaster Risk Management Programs were conducted in the target Tsunami vulnerable pilot communities in Matara. Evacuation Drill for school children was carried out on 2nd October at Talalla Maha Vidyalaya and Tsunami Awareness Program was provided on 3rd October at Gandara Primary School. The main objective of the programs was to provide community members with a good opportunity to make clear understanding of school safety plan.

Talalla Maha Vidyalaya, which is located in the risk areas of Tsunami, successfully conducted evacuation drill in a coordinated manner. Observed parents could have a confidence of safety arrangement of the school and understand that they do not need to worry about their children in case of disasters.



Evacuation Drill at Talalla Maha Vidyalaya

In the meanwhile, in Gandara Primary School, which is located in the safe areas of Tsunami, an awareness program was conducted with participation of school children and parents whose houses are located in Tsunami risk areas. They understood safety of the school location with the lectures of Tsunami mechanism and current early warning system in Sri Lanka by Matara DDMC and JICA Study Team.



Tsunami Awareness Program at Gandara Primary School

Coming Events

- Joint Disaster Management Exercise (October)
- Community-based Disaster Risk Management (CBDRM) Seminar (December)

Next Issue

- Joint Disaster Management Exercise

SLDM MIND Newsletter No.9 (October 2008)
 JICA Study Team
 on Comprehensive Disaster Management in Sri Lanka
 c/o Disaster Management Centre, Room 2-207 BMICH Building
 Baudhaloka Mawatha, Colombo-07, Sri Lanka
 Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk
 URL: <http://www.dmc.gov.lk/jica/index.html>

*SLDM MIND: JICA Sri Lanka Disaster Management Study with DOM, DOI, NBRO and DMC

3rd Disaster Management Exercise conducted on 16th October 2008

The 3rd Disaster Management (DM) Exercise from the government level to community level and evacuation drill in selected communities were conducted on October 16, 2008. Galle and Kalutara participated for the first time and Ratnapura for the second time from District level.

Next day on October 17, the evaluation meeting of the exercise was held to discuss short comes and issues. There were several issues that were raised during the evaluation meeting. Also, on the same day, Mini-Seminar was held to introduce and share Japanese experiences and key issues for DM exercise.

This issue of SLDM MIND features 3rd DM Exercise and outcomes of evaluation meetings followed by updates of Hydrological Information System.

In This Issue:

■ 3rd DM Exercise

- Exercise Rehearsal
- DM Exercise and Community Level Evacuation Drill
- Evaluation Meeting

■ Hydrological Information System

DM Exercise Rehearsal

For preparation to the 3rd Disaster Management Exercise, several meeting had been held targeting different DM exercise participants from about one month before the Exercise.

Series of Meeting

Date	Activities
Sep.18 (Thu)	1 st Joint Meeting at DMC conference room (for National and District Level)
Sep. 22 – 30	District Level Meeting at each District (2 nd Meeting) (for District, Division, GN and Community Level)
Oct. 2 (Thu)	Rehearsal of Exercise at Ratnapura (3 rd Meeting) (Information Transfer from National to Community Leader at Ratnapura District)
Oct. 9 (Thu)	Final Joint Meeting (4 th Meeting) (for National and District Level)
Oct. 3 - 14	Community Level Meeting at each community
Oct.15 (Wed)	Final confirmation (For National Level)
Oct.16 (Thu)	Exercise
Oct.17 (Fri)	Evaluation Meeting (5 th Meeting) (all participants)

On 2nd October 2008, the exercise rehearsal was held in EOC and Ratnapura DDMCU. The purpose of the rehearsal was to demonstrate how EOC, DDMCU, DS and GN respond and transfer information during the exercise. Using this opportunity, the flow of the exercise was explained step-by-step to have better understanding of the DM Exercise. DDMCU, Irrigation engineer, Police officer, GN and community leader of Galle and Kalutara were invited to participate in the rehearsal at Ratnapura.



DM Exercise Rehearsal at Ratnapura DDMCU

3rd Disaster Management Exercise

The 3rd Disaster Management exercise was conducted on October 16, 2008. The exercise was composed of three stages; 1) to transfer Disaster Early Warning information from Government level to GN level, 2) based on early warning information, DDMCU hold a District DM Committee meeting in each district to decide the issuing of the Evacuation Instruction to DS and GN, then conduct Evacuation Drill at the community level, 3) to transfer the request of Situation Report from EOC to DDMCU, then DS to GN. GN collects local information and reports to DS. DS and DDMCU compile information and report to EOC.



Ratnapura DDMCU

Ratnapura DS



Nivithigala DS

Kalutara DDMCU



Nagalakanda GN

Evacuation Drill by Nagalakanda Community



Ukwatta. GN



First Aid Training
at Ukwatta Community

GA and DDMCU of Ratnapura, Kalutara, Galle, Divisional Secretariat (DS) of Ratnapura, Nivithigala, Dodangoda, Bulathsinhala, Horana, Baddegama, GN of Mahawela, Mudduwa, Wanniyawatta, Ukwatta, Niggaha, Nagalakanda, Baddegama Town and the community people participated in the exercise. JICA Study Team supported in evaluating the exercise at all participated offices. The evaluator noted the time of action and checked each action was properly taken by participants by following the manual.

Evaluation Meeting and Mini Seminar of DM Exercise

Evaluation Meeting for the 3rd Disaster Management Exercise and Mini-Seminar on Disaster Management Exercise was held next day (October 17) at Trans Asia Hotel. The Meeting started by the opening Remarks of Mr. U.W.L. Chandradasa followed by exercise evaluation by evaluators. The evaluator reported the results of exercise evaluation. Based on the evaluation, each District had a group discussion to find out a good point and bad points. Generally, all participants understood the exercise but there were several problems raised.

- Communication problem: Because of Fax problem, information was not properly sent and took long time to transfer information.
- Miscommunication: Acknowledgement was not properly done or misunderstanding the contents of the message.
- Re-typing problem: Re-typing caused changing the contents of original message.
- Not reading Manual carefully: There was some confusion in stage 2. Not all the actions were taken

- properly and not following the manual.
- Situation Report format: in some DS, information sent by GN was not properly compiled for situation report.

To solve these problems, needs of considering the alternative communication mechanism, better communication for each action, making standard format for DS for situation report and etc. were discussed.

During the group discussion, each District nominated best group for this exercise. GN and Community of Wanniyawatta, Ukwatta, and Baddegama Town were selected as best group and they were given prize from Mr. Kudo, the Team leader of JICA Study Team.



Group Discussion
by each District



Prize for Best Group
in the Exercise

In Mini-Seminar in the afternoon session, Mr. Nishikawa, a member of JICA monitoring mission made a presentation of Japanese Exercise and Drill, and Experience of JICA's cooperation by Mr. Ishiwatari to share the key points and its importance in conducting the DM exercise. Mr. Nishikawa congratulated all for the efforts of conducting the Exercise and said, "Discovered the weakness and mistakes, that is most important in the exercise. Through this learning, you can avoid future mistakes. Please continue your effort to be prepared for disaster".



Speech by Mr. Nishikawa



Speech by DG, DMC

Hydrological Information System is now in Service

As featured in SLDM MIND No. 8, Hydrological information system is being installed in Kelani and Kalu river basin. The system enables 24/7 real-time monitoring for rainfall and water level. On 25th September 2008, with participation of DG and officers of DOI, launch "the Hydrological Information System".

Now hydrological information is shared and can be monitored in the TV monitor at anytime. The JICA Study Team asked for continuous effort to collect hydrological information and also to maintain the system. With active discussion among DOI officers, the JICA Study Team

and Technical staffs, several points were raised for its improvement. The JICA Study Team will make further improvement and adjustment of the system.

Next Issue

- Capacity Development

SLDM MIND Newsletter No.10 (October 2008)
JICA Study Team
on Comprehensive Disaster Management in Sri Lanka
c/o Disaster Management Centre, Room 2-207 BMICH Building
Buddhaloka Mawatha, Colombo-07, Sri Lanka
Tel & Fax: +94-(0)11-269-7796 e-mail: jjcadmstudy@dmc.gov.lk
URL: <http://www.dmc.gov.lk/jica/index.html>

Strengthening Capacity of Organizations for Disaster Management

Capacity Development (CD) of concerning organizations is one of the key issues for effective disaster management as well as preparation of concrete disaster management plans, therefore the JICA Comprehensive Study on Disaster Management includes the activity to enhance the capacity of disaster management targeting from the government officials to community people.

The JICA Study Team has been working mainly together with DMC, DOI, NBRO, DOM and the selected community people for enhancing their capacity through several different activities and approaches, and it has been showing the remarkable progress in many aspects in the CD perspective.

This issue of SLDM MIND features the Capacity Development Activities that have been taken place in the JICA Study by focusing on the Early Warning System planning process and Community Based Disaster Management.

In This Issue :

■ **Capacity Development (CD)**

- **Basic concept**
- **CD through the planning process in EWE System**
- **CD in community**

■ **Small Scale Mitigation Activity**

■ **Coming Events**

Capacity Development:

Indispensable in Disaster Management

As target organizations for the capacity development (CD) activities are various and they have different roles in disaster management (DM), therefore the capacity required are also different by organization. Knowledge on the disaster and the DM planning is required for the agency that implementing the disaster countermeasures while capacity for response is rather important for local governments and communities, and coordination and decision making ability is required for the leading agency. Further, a spontaneous learning process of knowledge is essential for the effective CD, and therefore interactive activities have been taken to maintain a motivation of the target bodies.

Considering these characteristics for the CD in this particular case, the Study Team applied several different ways, such as counterpart (CP) meetings, seminar, workshops, exercises and OJT (On the Job Training) to meet different requirements for different players and combined them based on its needs. For instance, a lecture in the CP meetings may be effective if it requires the specific knowledge, while if someone requires capacity for decision making in emergency, a workshop or exercises may be much effective than a lecture.

[Capacity Development through Early Warning System Planning Process]

From the past experiences, single organization initiative has a limit to establish the effective early warning and evacuation (EW) system since many organizations are involved in the EWE system. Therefore the coordinating capacity of a leading agency (DMC in Sri Lanka) is essential for effective EWE system planning. However, at the initial stage of the Study, the capacity of DMC was insufficient to lead the other organizations. In view of the warning dissemination, handling capacities are not sufficient for disseminating the warning messages in proper manner.

Aiming at establishing the effective early warning system and developing the capacity of DMC and other organizations, the Study team adapted a participatory

planning process with all concerned organizations and exercise implementation for the EWE planning.

Participatory Planning Process

The participatory process consisted of two meetings namely a "joint meeting" which is the discussion place for common aspects and an "individual meeting" which is the place for discussion with DMC and the concerned organizations. The joint meeting was initiated by DMC and aimed to create a consensus of the EWE system plan among all the organizations concerned, while the individual meeting gives an opportunity to consider detailed procedures and action by the individual organization themselves. DOI, DOM, NBRO, Police, DDMCU, DS and GN were invited to this participatory planning process. After the active discussions in the joint meetings, the role allocation and the responsibility of each organization, information flow and method of information transfer have been determined, and the EWE plan was tentatively established with manuals (also tool for identifying issues) for the exercise.

Disaster Management Exercises

Based on the EWE plan prepared through the participatory planning process, the exercises were conducted three times with participation of concerned organizations with the case scenarios of flood in Kelani River, heavy rainfall in Ratnapura Area, etc. In general, participating organizations performed their role properly and the information was transferred from the national level to the local level. As a consequence of the exercise, the appropriateness of information flow determined in the participatory process was confirmed.

Effects Identified

Through the participatory planning process and series of the exercise implementation, several effects have been identified.

- All organizations have increased their awareness on the EWE system, and DMC was recognized as the focal point organization on the EWE system.
- Each organization got a proper understanding on not only its own role but also the entire EWE system
- Exercises helped in the activities carried out to react to actual disaster events.

The effects identified above were proved at the actual events of heavy rainfall in November 2007 and the flood events in 2008. The warnings on the floods and the landslides were actually issued by DOI and NBRO at these events, and these warning messages were transferred properly from the national level to the local level through DMC in line with the procedures agreed upon the planning process. These actual cases show that the participatory planning process and the exercise implementation are effective to increase the awareness and capacity on early warning.

[Capacity Development in Community]

Enhancing capacities of communities for disaster management is one of very important aspects for reducing negative impact of disasters. As features in the previous issue of this SLDM MIND, the CD activities in the pilot communities in disaster prone area has been carried out as one of the main components of the Study.

The two and a half years' activities were taken place with the close cooperation with DMC, DOI, NBRO and DOM. Through the workshops, exercises and other activities, the awareness and readiness in pilot community for natural disasters are considered to be enhanced. Another thing that has to be pointed out is enhanced capacity of the government officials. Through the discussions with the Study Team and activities done in the Study, the counterparts and other officials engaged in the activities received the practical idea for the disaster management activity in the community level.

The community activity in the Study has been completed, and the achievement in the Study is still limited in the Pilot communities. As mentioned above, the community activity is very important and it has to be expanded to other areas. To promote the Community based Disaster Management (CBDM) activities, the Study Team prepared a handbook for CBDM and educational tools for the activity called "Flipitation" as outcomes of the JICA's CBDM activities.

On December 5, 2008, a seminar for promotion of the Community Based Disaster Risk Management, by sharing the lessons learned from the JICA activities and explaining how to use of the education materials, was held in SLFI with the participants from the island wide.



Community-Based River Water Level Monitoring –A Small-scale Disaster Mitigation Program

Through the community workshops and evacuation drill, the people in the pilot communities of Kittanpahua (Colombo) and Malwana Town (Gampaha), which are vulnerable to flood, found the necessity of continuous efforts to mitigate negative impact of disasters. In response to these communities' will for making the continuous efforts, DMC and the JICA Study Team decided to provide technical and financial assistances for implementing a "community-based river water monitoring" as a small-scale disaster mitigation program.

The program include community meetings to have proper understandings for the river water level observation, installation of river water level gauges and continuous observation of river water level by community members. In October 12, the JICA Study Team held the 2nd community meeting for the program to explain the importance of river water level monitoring by the community and how to use/read the installed gauges with participation of community people.

The final goal of this activity is to set up the community-based early warning system with easy understandable warning criteria, and this activity is the first step toward the final goal.

By reading the water level gauge, the community can obtain real-time flood information that is the key information to warn the residents in risk area, and it will contribute for the effective evacuation activity.



Coming Events

- Steering Committee and Counterpart Meetings for Draft Final Report
- 3rd Capacity Development Seminar (January, 2009)

Next Issue

- Final Issue: JICA Study Successfully Completed!

SLDM MIND Newsletter No.11 (December 2008)
 JICA Study Team
 on Comprehensive Disaster Management in Sri Lanka
 c/o Disaster Management Centre, Room 2-207 BMICH Building
 Bauddhaloka Mawatha, Colombo-07, Sri Lanka
 Tel & Fax: +94-(0)11-269-7796 e-mail: jicadmstudy@dmc.gov.lk
 URL: <http://www.dmc.gov.lk/jica/index.html>

Data Book 8

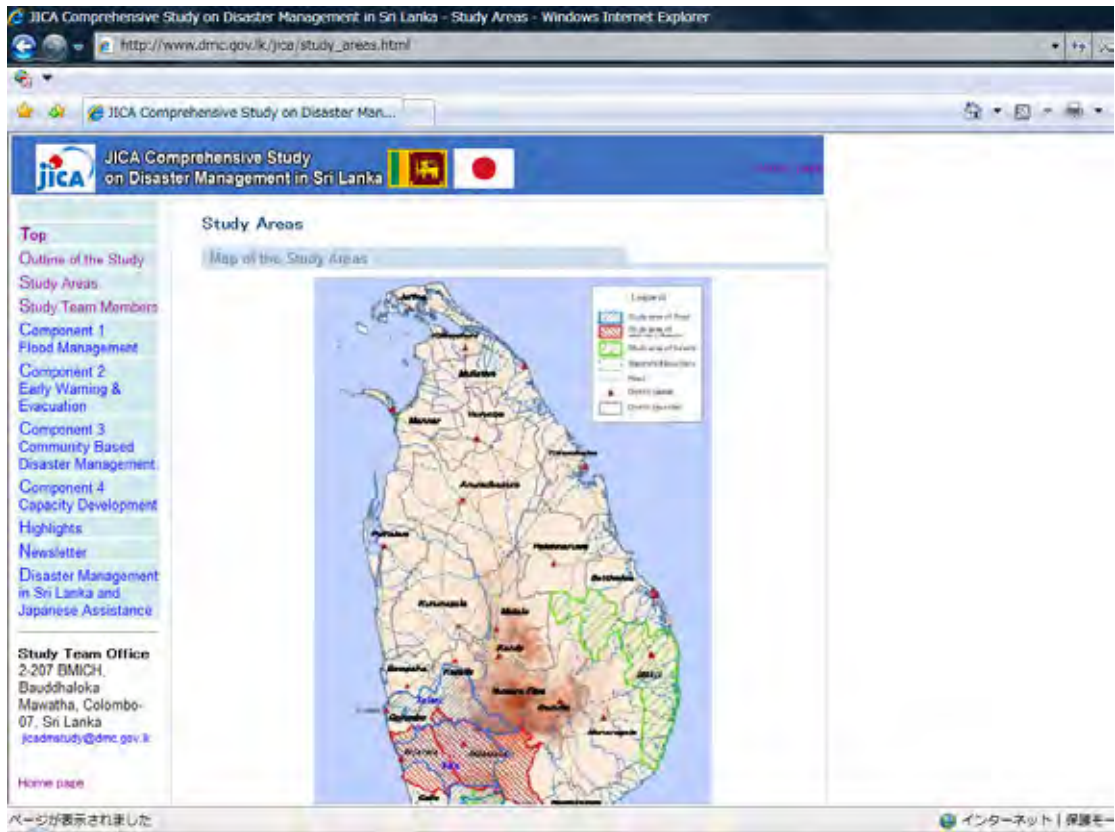
Screenshot of Web Pages



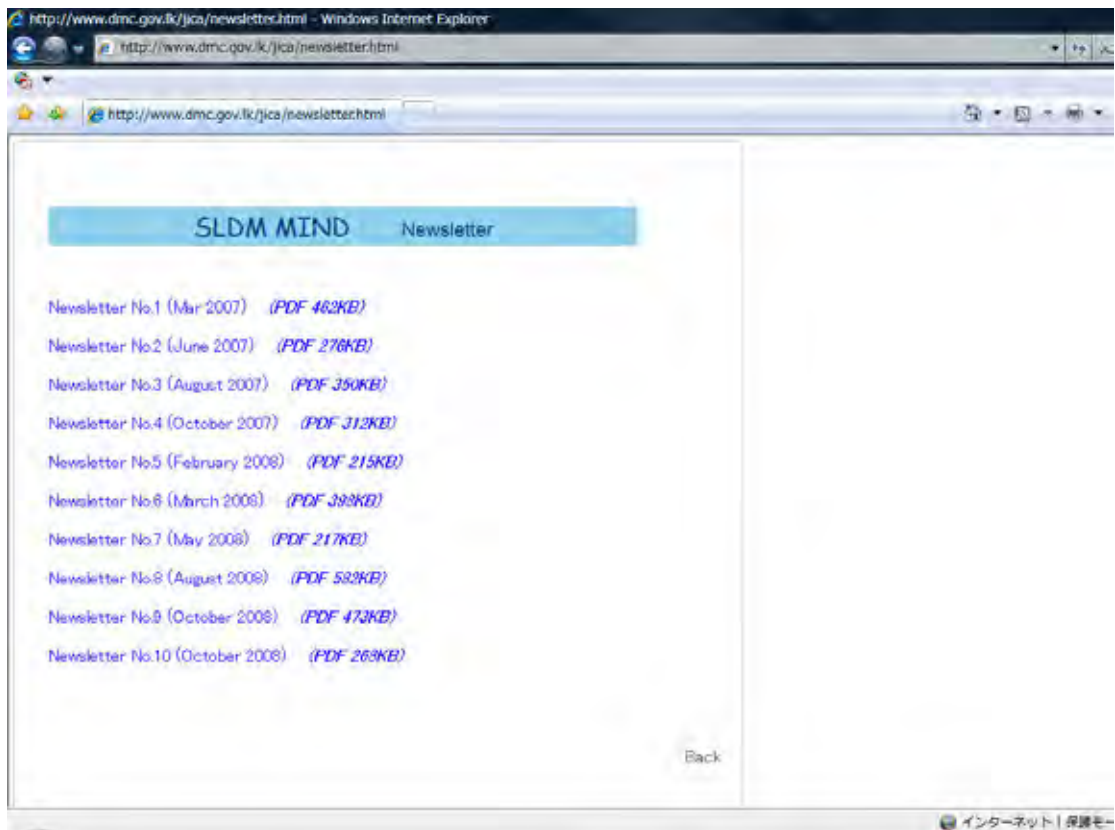
Web Site of Disaster Management Centre (icon of study team web site)



Screenshot of Study Team Web Site (First Page)



Screenshot of Study Team Web Site (Study Area)



Screenshot of Study Team Web Site (Newsletter)