# BOSAI

Culture & Disaster Education in Rural Communities in Nepal











# **TABLE OF CONTENTS**

Introduction	3
Background & Context	4
Disaster Risk Reduction Education Club	5
Roles in the DRR Education Club	
By the Numbers	5
Promoting DRR Education in Schools through DRR Education Clubs	6
Training I	
Training II	7
Disaster Education Games	8
Emergency Kit Quiz Game	
Shuffle Game	
First Aid for a Broken Bone	11
How to Stop Bleeding	12
How to Use a Fire Extinguisher	13
Training III	15
Training IV	17
Training V	18
Training VI	19
Photo Gallery	21
Participating Teachers	

# **INTRODUCTION**

This report summarizes the objectives, content and outcomes of six training workshops sponsored by Toshiba International Foundation focusing on Disaster Risk Reduction (DRR) education in schools in Nepal.

This group of 18 teachers from four rural municipalities in Nepal were the second cohort of teachers to take part in these workshops throughout 2020. The online workshops consisted of how to utilize and teach locally-produced DRR educational material in more schools in Nepal. Facilitators introduced various games and activities that could be used in local DRR Education Clubs to promote awareness and preparedness for disasters.

# Bosai

"Bosai" is a Japanese word meaning disaster prevention. The word is widely used and understood in Japan through frequent practices developed to enhance disaster prevention activities across communities. The three key principles of bosai are: self-help, mutual help and public help.

In this report, the activities under self-help and mutualhelp are included as a part of the training provided to the teachers in target municipalities of Bhimdatta, Biratnagar, Dharan, and Hetauda in Nepal.



**Partners** 

**TOSHIBA** 









# **Background & Context**

The 2015 Gorkha Earthquake in Nepal was an earthquake that most people in Nepal experienced for the first time. While Nepal lies along several fault lines and gave rise to the world's highest mountain range, the occurrence of earthquakes are relatively few and have remained a distant threat to many. However, the April 25th earthquake in 2015 triggered a new sense of urgency to review building codes, construction practices, disaster preparedness and response, among others.

Disaster prevention education and awareness programs in Nepal existed before the 2015 earthquake, however, the methodology and the level of interest in putting prevention into practice has changed since then. During the 2015 earthquake schools were among the most heavily damaged buildings. Aid from various countries and agencies have helped to rebuild many schools and residences, yet, a proper disaster prevention program was still lacking.

In 2015, soon after the earthquake, CityNet started support programs for its members in Nepal which included several trainings for engineers as well as capacity building workshops for teachers developing educational material. CityNet and Plus Arts (a Japanese non-profit organization) then embarked on a project to introduce Japanese disaster prevention education programs to teachers in Nepal who then localized the educational material for Nepalese school children.

Initially, the project covered five municipalities within Kathmandu valley during 2015-2019. This project supported by **Toshiba International Foundation** now covers schools in four additional municipalities, including those in rural areas of Nepal. Due to the COVID-19 pandemic, all project workshops were conducted online. Necessary educational kits were also distributed to each participating school.

The disaster risk reduction educational material developed by the first group of Nepalese teachers in 2019 were used to train this second cohort of teachers. This year, some of the teachers from the first training acted as peer teachers for the new teachers.

# **Challenges**

The main challenge of the online training workshops was a lack of internet connectivity, an issue that affects many in Nepal, especially in rural areas. Some participants had difficulty connecting and staying connected due to poor internet service and electrical outages. About half of the participants were not familiar with Zoom, a video conferencing tool, as well as email services, so extra training was provided to cover these topics.

During the workshops, facilitators could not see the reactions of participants at times, making it difficult to interpret and gauge if participants were able to follow instructions. Also, some of the games, such as the Earthquake Awareness Game, required a large space and a group of participants in order to fulfill requirements.

# Disaster Risk Reduction Education Club



The concept of the Disaster Risk Reduction (DRR) Education Club emerged following the continued training of teachers during the JICA (Japan International Cooperation Agency) previous project for making DRR education sustainable in schools. The first phase of the project commenced in 2017 to train teachers on DRR education in Bhaktapur, Chandragiri, Kathmandu, Lalitpur, and Shankharapur.

#### The objectives of the DRR Club are to

- Enhance the skills of students in DRR education through games and exercises.
- Promote DRR education in schools and community through transferring knowledge.
- Form responsible students groups for making disaster friendly environment at schools.

# Roles in the DRR Education Club

# School Management (Advisory Role):

- Support teachers participating in trainings.
- Form DRR Education Clubs.
- Institutionalize the DRR Education Club and its activities.

# Trained Teachers (Supervisor Role):

- Participate in trainings; form DRR Educations Clubs at schools.
- Provide training for students and other teachers.
- Ensure safety of DRR games and materials.
   Create a DRR Education
- Create a DRR Education
  Club calendar.

#### DRR Education Club Members (Implementer Role):

- Conduct DRR Education Club activities.
- Organize DRR awareness events.
- Invite other students and parents to participate in Club activities.

200

#### Other Students:

 Learn and be inspired by different aspects of DRR education.



#### **Parents**

 Experience DRR games and develop skills for mitigating risks



- Learn DRR concepts and how to play the games.
- Conduct DRR activities at school.
- Organize DRR awareness events at school.

# By the Numbers

Training Sessions

4

Municipalities

8

Schools

18

Participants

10

Games

# Promoting DRR Education in Schools through DRR Education Clubs

# **Training I**

#### **Objectives**

- To familiarize participants with the concept of the DRR Education Club.
- To discuss the DRR Education Club formation and operation methods.
- To understand the role of the DRR Education Club.

#### **Summary**

At the training session, participants were introduced to the background and objectives of the DRR Education Club (see page 4-5). Facilitators focused on the formation and maintenance of DRR Education Clubs and how they can work in the school context.

Participants learned about the DRR Education Club formation process: this involves an initial meeting at school with school management and teachers where the objectives of the Club are shared. Teachers then conduct a meeting with students of different classes and select interested students for the DRR Education Club. The leadership of the Club is selected either through voting or mutual understanding. Minutes are taken and shared with school management.

The session included a review of operation methods, planning and divisions of roles through the school management, the Club supervisor, and Club members.

#### **Outcomes**

Participants became familiar with the objective of the DRR Education Club project, the importance of DRR education and the objectives of forming a DRR Education Club in their school. Feedback from the training shows that all participants successfully understood the concepts covered in the training and they see the possibility to form a DRR Education Club in their own schools. The report also shows that time allocated for training was sufficient for reaching the objectives.

"The training was very informative and effective in terms of understanding DRR education, knowledge and skills. The games are easy to learn for students and once implemented in schools, students will be happy to play those games... We believe that these games are effective for the community also."

Keshav Singh Karki, Malikarjun School, Bhimdatta





# **Training II**

# **Objectives**

- To understand the concept of emergency bags (Jhatpat Jhola) and the importance of the items contained in the emergency bags.
- To understand fire prevention strategies through the Picture-story Game.
- To acquire first aid skills using locally available materials.

#### Disaster Risk Reduction Drill Exercise

The Disaster Risk Reduction (DRR) Drill Exercise is an educational tool used to increase awareness of the causes of earthquakes. Facilitators introduced each step of the exercise and participants were able to repeat those steps. The DRR Exercise highlights and explains the geological cause of earthquakes as in the instance when two opposite tectonic plates strike each other.









# Emergency Kit Quiz Game

The Emergency Kit Quiz Game introduces the 12 items that should be included in an emergency bag. During the training, participants were shown these necessary 12 emergency kit items and were then asked to remember these items. Following a one minute interval, facilitators removed the items from the screen and participants were asked to recall the items. Despite a good effort, none of the participants were able to recall all of the items. The facilitators revealed the items again and explained why each is important during disasters and how each item can be used.

# Benefits of the Emergency Kit Quiz Game

- · Identify necessary emergency bag items.
- Understand the importance of each item in the emergency bag.
- Learn how to use each emergency bag item.
- Increases concentration and memory.
- Gain a sense of competition and confidence.

# The Picture-story Show

The Picture-story Show features illustrated cards showing how to prevent fires at home. There are 10 different pictures in the story and each picture highlights a specific message related to fire and fire safety measures. Using the picture cards, different questions were posed to participants regarding mistakes they could identify in the picture and what the solution might be. The Picture-story Game ends with a very clear message on why we should be careful around fire and how we should respond if a fire breaks out.

# **Benefits of the Picture-story Show**

- Learn important strategies for fire prevention.
- Learn to use fire devices properly.
- Develops picture interpretation skills and logic.
- Promotes problem solving.





## First Aid Method

Two types of first aid skills and methods using locally available material were introduced to participants. First, participants learned how to use local items such as handkerchiefs, plastic bags, neckties, and rope. Second, participants learned to apply first aid in the case of a broken hand or leg by using an umbrella, newspaper, large plastic bag, necktie, shawl, or handkerchief, etc. as well as how to stop bleeding using a rope.

## **Benefits of the First-aid Method**

- Easy to train participants in first aid using locally available materials.
- Learn proper utilization of different local materials.

#### **Outcome**

By the end of the training, participants understood the need to have emergency bags, the necessary items in the emergency bag and how to use them. Participants also learned about different fire prevention plans. They acquired first aid skills and learned how local materials can be used effectively during a time of disaster. In the final evaluation report participants indicated that they were highly satisfied with the training and that they each section clearly.

# Disaster Education Games

# **Emergency Kit**Quiz Game

Can you identify all of the items?

Make a mental note of all of the items, now cover them up with a piece of paper. How many can you remember? Check your answers.

What can each of these items be used for? Check on the next page to see if you have the correct answers.

Tip: Cut out each of the squares and use them to play the game with family and friends.



		1////	E D
Portable Radio	Emergency Food	Water	First Aid Kit
Prepare a portable radio with charged batteries in order to access important news and information.	Prepare food for all family members x 7 days.  Include beaten rice, canned juice, noodles, namkeen, and dry packaged foods.	Prepare 2 liters per person per day × the number of family members × 7 days.	Include medicines for:  • common cold, headache, fever, diarrhea, and pain relief  Include other regularly used medicines. Must be kept separately.
Torch	Raincoat	Newspapers	Polythene Bags
can be used to:	can be used to:	can be used for/as:	can be used for/as:
light up spaces     It is best to have a separate torch for the living room, kitchen and toilet	protect yourself from rain and dust     stay warm in cold weather     keep hands free during rain so you can rescue others as well	<ul> <li>making paper plates</li> <li>splints for broken bones</li> <li>wrapping yourself to keep warm</li> </ul>	food preparation     carrying water     infection prevention during first aid     a sling
Kitchen Plastic Wrap	Gloves	Large Handkerchief	Ropes
can be used to:	can be used for/as:	can be used for/as:	can be used to:
<ul> <li>cover plates</li> <li>place over the plate to save water</li> <li>stop bleeding during first aid</li> </ul>	hand safety     protection from dust and from getting injured     with a helmet (head protection) and mask (dust protection) along with gloves	<ul> <li>first aid</li> <li>a mask</li> <li>to clean things</li> <li>baby and nursing care</li> </ul>	rescue people, animals     tie furniture or other goods





# First Aid: Broken Bones

Game participants need to arrange the cards in the correct order for administering first aid to someone with broken bones.





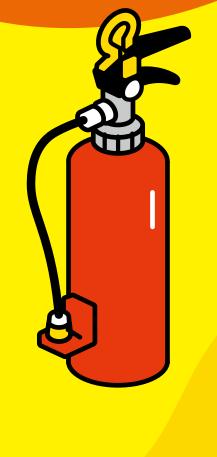


# First Aid: How to Stop Bleeding

Participants need to arrange the cards in the correct order for administering first aid in the case of bleeding.



# Shuffle Game



# How to Use a Fire Extinguisher

Participants need to arrange the cards in the correct order required for safely using a fire extinguisher.

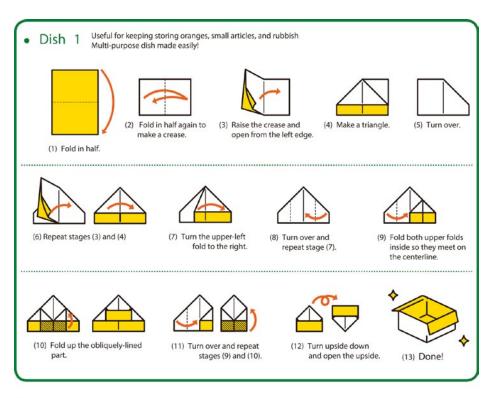


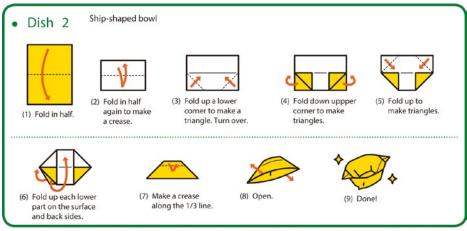


# **Making Paper** Dishes 14

# **How To Make Paper Dishes**

You can make your own paper dishes using only leaflets and/or newspapers! These dishes are very useful during a disaster.





# **Training III**

# **Objectives**

- To understand the process of first aid and the use of fire extinguishers using shuffle cards.
- To provide earthquake awareness with card games.
- To learn techniques to make paper dishes with newspaper and paper.

# DRR Drill Exercise (Fire, Floods, and Landslides)

The objective of the DRR Drill Exercise is to highlight the need to evacuate to a safe place for protection from fires, floods, and landslides as quickly and as safely as possible. Participants learned each of the relevant steps of the DRR Drill Exercise for each of the disaster types.

# Shuffle Game

The Shuffle Game visually outlines various important safety procedures using cards. In the Shuffle Game, there are nine themes with five cards within each of these. One card contains both the questions and answers, while the other four cards show the safety procedures. The four cards with the safety procedures are shuffled and











participants have to arrange the cards in the correct order. If done correctly, the participant earns three points. The participant with the most points at the end of the game is the winner. During the training, participants played the Shuffle Game focusing on the themes of first aid (bleeding), first aid (broken hand), and fire extinguisher usage.

"This training is practical. Many creative activities are included in the games. These games help to enhance the logical thinking and leadership skills of the students. If these activities are properly implemented at schools, students will get the real benefit of it."

Krishna Singh Saud, Satyavadi School, Bhimdatta

#### Benefits of the Shuffle Game

- Enhances logical thinking of participants.
- Increases feeling of competition among participants.
- Understand different skills of DRR mitigation.



# Earthquake Awareness Game

The main objective of the Earthquake Awareness Game is to provide relevant earthquake safety information through the use of a card game. Though this game generally requires two teams and ample space to play, it was possible to adapt the game so that participants were able to play virtually. In order to play, participants are required to find answer cards for ten different questions. During the training, questions and multiple game options were presented and participants selected the best answer cards and gave reasons for selecting those cards.

# Benefits of the Earthquake Awareness Game

- Improves understanding of earthquake coping strate gies.
- Learn ways to prevent injury and damage from earth quakes.
- Encourages quick decision making.
- Promotes both physical and mental activity.

# Paper Dishes (Part 1)

The main objective of making paper dishes is to understand how this skill can be beneficial in an emergency situation, e.g to preserve food. In this training, participants learned to make a small paper box using A4 paper.

## **Paper Dishes Benefits**

- Gain the skills to make paper dishes.
- Learn how to utilize the paper dishes during an emergency.

Following this training participants understood the skills necessary to perform first aid in the cases of excessive bleeding, and hand/arm injuries by using locally available resources. Participants also learned how to properly operate a fire extinguisher and understood various disaster mitigation strategies during and following an earthquake.

Using paper and newspaper, participants learned how to make paper dishes which can be lifesaving during disasters.

In the final evaluation report participants indicated that they were highly satisfied with the training and they understand each section clearly.

# **Training IV**

# **Objectives**

- To continue learning techniques to make paper dishes with newspaper and paper.
- To understand earthquake and flood preparedness using the Disaster Life Cycle.

# Paper Dishes (Part 2)

The main objective of making paper dishes is to understand how this skill can be beneficial in an emergency situation. In this training, participants learned to make a small paper box using A4 paper. This paper box can be very useful for preserving and storing food during a disaster. After making the box, participants learned to make a paper cup. Participants were shown a video outlining the process of the two paper dishes.

#### **Paper Dishes Benefits**

- Gain the skills to make paper dishes.
- Learn how to utilize the paper dishes during an emergency.



# Disaster Life Cycle Game

This session provided a detailed explanation of what safety procedures are needed before, during and after a disaster, with a focus on floods and earthquakes. In order to play this game, participants used the Disaster Life Cycle Game cards and followed the instruction of the facilitator. Participants were already provided the materials for the Disaster Life Cycle Game. Participants experienced two Disaster Life Cycle Games, one related to earthquakes and the other related to floods.

# **Disaster Life Cycle Game Benefits**

- Enhances logical thinking.
- Provides confidence in implementing safety measures before, during, and after a disaster.
- Participants are exposed to various DRR mitigation skills.

"We liked the content and the process of the training. Though the meeting was conducted virtually, we experienced it similar to a face-to-face training. The training was conducted systematically, the content and schedule were shared ahead of time and regular follow up was done so teachers were well-prepared for the training....we are now sharing content and how to play the games with other teachers at our school."

Padama Bhandari Saud Madan Bhandari School, Bhimdatta

#### Outcome

Following this training, participants learned the skills to make and use paper dishes during an emergency. Furthermore, participants understood safety procedures in case of an earthquake or flood using the Disaster Cycle game.

In the final evaluation report participants indicated that they were highly satisfied with the training and they understood each section clearly.

# **Training V**

# **Objectives**

- To introduce DRR education game materials.
- To introduce the Snakes and Ladders game related to floods and landslides.
- To experience how to teach and use the cards in the Picture-story Show and the Shuffle Game.



"During the difficult situation of the COVID-19 pandemic, the virtual training was conducted effectively. Despite some technical problems, the training was highly effective... Overall we feel the new experience and lessons were meaningful."

Birendra Bahadur Shah, Shree Public School, Dharan

#### DRR Game Materials

The main objective of this section was to familiarize participants with DRR education game materials. The facilitator presented each item in the DRR education materials box. The cards were introduced separately so that participants could easily distinguish each item from the different games. Participants also learned how to use each card and the best ways to maintain the box. All five of the DRR education materials were introduced and participant concerns were addressed.

#### **Benefits of DRR Game Materials**

- Increases familiarity with DRR education game materials.
- Identify the cards used in each game.
- Learn how to use the cards in each game.

# Snakes and Ladders Game

This session provided an understanding of how to play the Snakes and Ladders game. Since this is a very common game throughout Nepal, participants were able to learn how to play this game quite easily. The facilitator presented different themes and their meaning used within the game. The facilitator also presented better ways to play the game. In this game, the ladder symbol represents cause and effect relationships related to floods and landslides. The snake represents the negative impacts of human behavior.

#### **Snakes and Ladders Game Benefits**

- Enhances logical thinking in participants.
- Provides knowledge on how floods and landslides occur.
- Promotes an understanding of preventive measures for landslides and floods.

# Experienced Picture-story Game

Facilitators used this session to familiarize participants with the Experienced Picture-story Game. Participants reviewed the story depicted on each picture card in order to understand the main themes in this game. Participants learned ways to handle the cards as well as options for delivering the story used in the cards.

# Benefits of the Experienced Picture-story Game

- Learn preventative measures for landslides and floods.
- Learn how to use the picture-story cards.
- Discover different storytelling options.
- Develops picture interpretation skills



# Experienced Shuffle Game

The aim of this session was to make participants familiar with the nine themes of the Shuffle Games. The facilitator explained the process of playing the Shuffle Game and introduced all nine themes. Participants then played all of the themes in the game. Participants were directed to review each shuffle card and then practice at home.

# **Experienced Shuffle Game Benefits**

- Become familiar with the nine different themes in the Shuffle Game.
- Understand how to play and teach the Shuffle Game.

# Outcome

By the end of this training participants were familiar with all DRR education game materials and understood how to use each of the cards in the DRR education material. Participants experienced playing the Picture-story Show Game and the Shuffle Game.

In the final evaluation report participants indicated that they understood how to use the DRR education game materials, the Picture-story Game and the Shuffle Game.

# Training VI

# **Objectives**

- To review DRR Education Games.
- To discuss possible further activities.
- To discuss challenges and opportunities of forming DRR Education Clubs and conducting DRR Education Club activities.

# Review of Previous Sessions

This session focused on a review of all the completed training material from previous sessions. This included reviewing materials related to all DRR education games introduced since the second training session. The facilitator reviewed how to play all of the games, and participants then demonstrated the process of actually using DRR game materials. The facilitator asked participants about their understanding of using the DRR game materials and participants shared their conclusions

The virtual training was interactive, impressive, and effective. We appreciate the professionalism and effectively conducted training.

Shiva Raj Bartaula Araniko School, Hetauda

and demonstrated the process as well. In addition, participants discussed the process of forming a DRR Education Club at their schools and how to conduct DRR activities through the Club.

#### **Session Outcomes**

- Familiarity with DRR education game materials.
- Comprehension of how to use the cards in each game.
- Understanding roles in DRR Education Club activities.



## **Future Plans**

In this session, facilitators and participants discussed possible future activities for the project. Followup visits are planned for January and February, but the visits may be rescheduled due to the COVID-19 situation in the respective municipalities. Initially, two days of face-to-face training sessions with the participants in their respective municipalities have been planned.

# Opportunities and Challenges in Conducting DRR Activities in Schools

In this session, facilitators collected ideas and information from participants on how to best conduct DRR education activities at their schools and the potential challenges. Teachers from each municipality also shared their feedback regarding this training. Teachers had a united opinion in that they all said that although the training was conducted online, they were able to understand different aspects of DRR education. Teachers said the materials are easy to share with other teachers and students and schools

will use these materials after schools reopen. To use effectively, teachers requested to have in-person physical training where they can experience these DRR education materials practically so that they are more capable to handle these games. The idea of forming a DRR Education Club is also welcomed by teachers and they indicated that if it is not possible to form a DDR Education Club in their school, they will include DRR activities in their existing activities.

## Outcome

As a main outcome of this training participants became familiar with the DRR education game material and understood the ways of using each game in the DRR education material. They now understand their role in conducting DRR activities at their schools.

# Challenges

It is a challenge to measure the exact level of understanding of how to use DRR education materials by the teachers. It is also difficult to see how the teachers will perform the actual activities in a practical scenario with students.

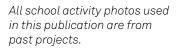














"Disaster Risk Reduction training has empowered us with a variety of tools and technologies which can save lives and property. I would like to thank CityNet from the bottom of my heart for this wonderful opportunity."

Indra Bahadur Chauhan, Adarsha Vidhyalaya, Biratnagar



































# **Participating Teachers**

SN	Name of the Teacher	School	Municipality
1	Birendra Bahadur Shah	Shree Public School	Dharan
2	Deepak Rai	Shree Public School	Dharan
3	Sabita Dhakal	Dharan Adarsha	Dharan
4	Abeen Rai	Dharan Adarsha	Dharan
5	Indra Bahadur Chauhan	Adarsha Public	Biratnagar
6	Prabesh Dulal	Adarsha Public	Biratnagar
7	Chiranjivi Timsina	Liliput English School	Biratnagar
8	Naina Upadhyaya	Liliput English School	Biratnagar
9	Shivaraj Bartuala	Araniko School	Hetauda
10	Raju Ghale	Araniko School	Hetauda
11	Dhanraj Phuyal	Chandrodaya School	Hetauda
12	Binod Prasad	Chandrodaya School	Hetauda
13	Dr. Padama Bhandari Saud	Madan Bhandari	Bhimdatta
14	Laxmi Kumari Pant	Madan Bhandari	Bhimdatta
15	Keshav Singh Karki	Malikarjun School	Bhimdatta
16	Mohan Dev Joshi	Malikarjun School	Bhimdatta
17	Krishna Singh Saud	Satyavadi School	Bhimdatta
18	Dibakar Joshi	Yuba Barsha School	Bhimdatta
19	*Machakaji Maharjan	Saraswoti School	Kathmandu
20	*Neelam Shrestha	Shram Jeet Kishor	Lalitpur
21	*Abha Awale	Bhasara	Lalitpur

<sup>\*</sup>Peer teachers from past projects.



हात भाविएको व्यक्तिलाई

प्राथमिक उपचार कसरी गर्ने







हात भाचिएको व्यक्तिलाई

प्राथमिक उपचार कसरी गर्ने





कृतै व्यक्तिको दुर्घटनामा परेर हात भाविएको छ, अब उसलाई प्राथमिक उपचार गर्नहोस



हात भाचिएको व्यक्तिलाई

प्राथमिक उपचार कसरी गर्ने

प्राथमिक उपचार कसरी गर्ने





हात भाषिएको व्यक्तिलाई

प्राथमिक उपचार कसरी गर्ने

अब हातलाई हल्लिन नदिन एउटा लामो कपडाले चित्रमा दिए अनुसार हातलाई शरीरमा बेरिने गरेर बाध्नु पछं

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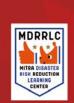
















प्राथमिक उपचार कसरी गर्ने

**TOSHIBA** 

