

SEARCH AND RESCUE ROLES OF FIRE SERVICE AND CIVIL DEFENCE AND **URBAN COMMUNITY VOLUNTEERS** IN RANA PLAZA: A RAPID ASSESSMENT



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1. Rana Plaza disaster: A Background

“Rana Plaza”, an eight-storied commercial building, located at Dhaka-Aricha highway near Savar bus stand, collapsed on 24 April, 2013 at around 9:30 am. The building housed five garment factories (New Wave Button, New Wave Styles, Ethar Tex, Phantom Apparels and Phantom Tex) employing around 5,000 people, 300+ shops, and a bank. An official statement of the Bangladesh Garment Manufacturers and Exporters Association cited 3,122 workers to be in the building at the time of the collapse.

A day prior to the fateful day, on 23 April 2013, cracks developed on some pillars and a few floors of the building following a jolt. This caused panic among the garment workers and they rushed out of the building. The owners closed the factories around noon that day. A team from the industrial police inspected the cracks and requested the building authorities to close the building and to suspend operations of the factories. However, the building owner and top-management of the garment factories ignored the warning and forced the workers to work in the morning of 24th April.



This resulted in the high death toll of 1,127 at the end of the rescue operation on 14 May 2013, one of the world’s deadliest industrial disasters.

2. The Search and Rescue Operation in Brief

Responding to the disaster, several hundred fire fighters (FSCD), army & BGB troops, police, RAB and Ansar personnel, urban volunteers, local people, civil administration, and other government, non-government and private organizations joined the search and rescue operation. Maj. Gen. Chowdhury Hasan Sarwardy, General Officer Commanding (GOC) of the Ninth Infantry Division of Bangladesh Army was designated to coordinate the operation. The outpouring of public sympathy was high and spontaneous collective efforts were exerted to rescue as many victims as possible. Looking beyond the site, doctors and interns worked round the clock at all the nearby hospitals to treat the wounded. Blood donation camps were set up for the thousands of donors on site and all over the city.

The injured were taken to the nearby Enam Medical College Hospital and many were, subsequently, taken to Dhaka for better treatment. Dead bodies were kept at nearby Adhar and College field.

Hundreds of spontaneous volunteers participated in the rescue operation round-the-clock. Some were trained volunteers of Bangladesh Red Crescent Society; BFSCD-CDMP; as well as NGO programmes while a large number were untrained and unaffiliated.

The first operational strategy was to bring out the people trapped inside the building. The operation progressed slowly and rescuers supplied food, water and oxygen to the trapped victims.

The Story of the girl named 'Shahina'

Shahina, a garment worker who was pinned in the debris for five long days, was about to be rescued on April 28. But at the point of pulling her out a fire broke out, temporarily halting the rescue.

The fire was reportedly started by sparks from cutters being used to remove wreckage. Four rescuers trapped in the rescue tunnel were taken to hospital with severe burns - one of them was airlifted for treatment in Singapore but his life could not be saved. His name was Kaikobad.

Earlier, Shahina was found to be in good condition and was provided with food, water and oxygen after rescuers had traced her. But after the fire, only her dead body could be brought out from the burned tunnel. The rescuers could hardly control their tears when she was brought up.



A total of 920 BFSCD-CDMP Urban Volunteers participated round the clock in 8-hour shifts with 200 volunteers at any given time.

Reshma: The 'Miracle girl'!

Reshma, a garment worker, was found alive under the debris of Rana Plaza at 3:30 pm, May 10, on the 17th day of the building collapse almost 408 hours into the rescue operation. Reshma was trapped in the basement of Rana Plaza. She did not have significant injuries.

Clearing the debris with heavy equipment had reached the basement level when a rescuer heard the voice of a woman in the rubble and all operation with heavy equipment stopped. Reshma was given food and water and could be pulled out within 15 minutes. She was rushed by ambulance to the nearby Combined Military Hospital for evaluation and treatment. She later told a TV channel from her hospital bed that she never dreamt she would see daylight again.



A total of 3,565 people – of whom 2,500 were rescued alive - had been pulled out of the rubble when the operation concluded on May 13, 2013 and the responsibility of the site was handed over to the district administration at 6:00 am on 14 May, 2013.

3. Use of Equipment in Rana Plaza Operation

The, then, Disaster Management Bureau of the Ministry of Disaster Management Relief procured and handed over mostly to the FSCD and the Armed Forces Division a large number of both heavy and light search and rescue equipment. CDMP also procured and handed over a considerable number of fire fighting and search and rescue light equipment, of which a significant number was used in the Rana Plaza operation (See Annex 2 for details).

4. The Lessons Learned

4.1 The Operational Debriefing

BFSCD with support from CDMP organized an Operational Debriefing on 11 May, 2013 at Fire Service and Civil Defence Complex, Mirpur. A total of 120 fire service professionals including officers of various ranks, leaders and firemen, as well as 65 urban community volunteers involved in the operation shared experiences, success, limitations and scope of improvement of the operation.

The main objective of the debriefing session was to capture lessons learned about the functions of the BFSCD, having increased capacity with modernized training and rescue equipment through CDMP II support and the participation, and roles played by BFSCD-CDMP II urban volunteers in the rescue operation. These lessons learnt along with future action plan and recommendations are to be used to improve the capacity for future rescue.

Alongside, CDMP conducted a rapid assessment with the following aims:

- To share the learning and experience from the rescue operation
- To assess the use of CDMP II supported rescue materials and equipment
- To assess the strength and weaknesses and to identify the capacity gaps of FSCD & urban volunteers
- To collect recommendations and feedback from professional rescuers and volunteers

4.1.1 Findings on the Rescue Operation

Two separate working sessions were conducted with four different groups formed based on the operational responsibilities during the operations, i.e.: i) decision makers, ii) highly skilled fire officers, iii) firemen and iv) Urban volunteers. Each group met in two separate working sessions, to identify/recall the positive aspects and limitations of the rescue operation and put forward recommendation based on their practical experiences during the rescue operation. Outcomes of the sessions are presented below:

POSITIVE	LIMITATION
a. Improved consciousness about duties & responsibilities. b. Successful operation despite limited equipment and resources. c. Pride in rescuing the many live victims d. Opportunity to apply volunteers’ knowledge and various types of rescue equipment in the rescue operation.	a. Inadequate equipment (Personal Protective Equipment, rescue tools, oxygen, light, fire extinguisher, stretcher/ backboard) b. Shortage of small hydraulic cutter, right type of chipping hammer bit, smoke ejector tunnel, PPE, head light with helmet, oxygen pipeline, two-part ladder. c. Weak chain of command, lack guidelines and

POSITIVE	LIMITATION
<p>e. Food, drinking water, oral saline, etc. were available during the operation.</p> <p>f. General people participated spontaneously with the rescuers and medical teams.</p> <p>g. Law enforcement agencies (Police, RAB, AFD), community volunteers, Anguman Mofidul Islam, Red Crescent were very sincere and provided good support.</p> <p>h. All agencies like CDMP, Action Aid, NARRI, USAID, UNDP and others supplied rescue equipment and provided other necessary support.</p> <p>i. Appreciation from print and electronic media and the wider population.</p>	<p>coordination.</p> <p>d. Lack of safety cordon of the operational area and scene size-up.</p> <p>e. Lack of training in dead body management</p> <p>f. Insufficient number of vehicles for transportation. Need more logistic lay-out station.</p> <p>g. Need for more effective shifting of duties, with safe and proper accommodation ensured for rescuers.</p> <p>h. Need for effective assessment with the support of professional rescuers, proper documentation of the dead and survivors. Effective press handling required.</p> <p>i. Lack of communication system like megaphone/walkie-talkie.</p>

4.2 Findings on the Rescue Operation by Urban Volunteers

A semi-structured questionnaire survey of 52 volunteers involved in the operation was administered, during the debriefing session, to learn about the volunteers' feelings and experiences.

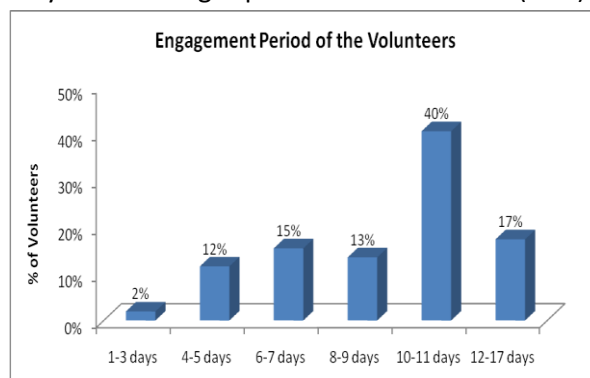
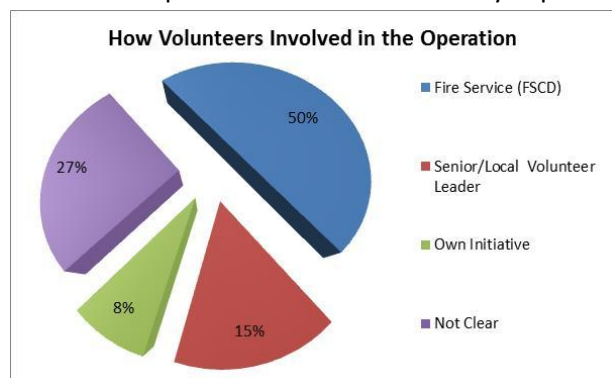
4.2.1 Characteristics of volunteers:

Some basic facts about the volunteers are that the volunteer corps consists of primarily young adults with significant participation of women. They are well educated persons from various walks of life, predominantly students. This is consistent with the typical citizen activism in the urban context where privileged educated middle class individuals with dispensable time nurture the dedication to the good causes for the community.

Characteristics	Description	Resp.
Gender	Male	65%
	Female	35%
Age of respondent(years)	16-17	4%
	18-22	58%
	23-30	27%
	31-35	4%
	36-40	6%
Education	Under S.S.C	4%
	S.S.C	19%
	H.S.C	25%
	Bachelor	42%
	Masters	6%
	Alim (H.S.C)	2%
Occupation	Student	73%
	Service	8%
	Business	8%
	House-wife	6%
	Teacher	2%
	Imam	2%

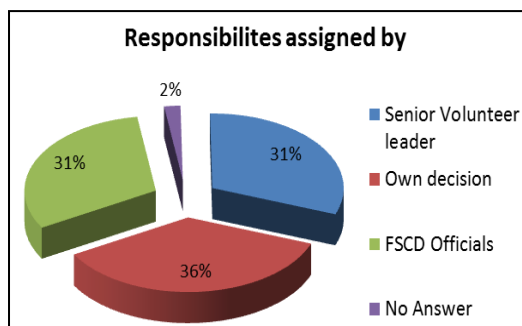
4.2.2 Volunteers' engagement in the rescue operations:

The rescue operation went on for 20 days up to 13 May 2013. A larger part of the volunteers (40%)



engaged throughout the intensive rescue operation for 10-11 days. They were mobilised through FSCD message from the HQ and/or local fire station either directly or through senior volunteer/local team leaders. Some volunteers (8%) made their own decision while others (27%) could not recall how they took decision to join the operation.

Most of the volunteers performed multiple duties at different times. Two-thirds of them were engaged in rescuing trapped victims. Other tasks in order of priority were carrying wounded persons to ambulances, searching and recovering dead bodies, supplying equipment to rescuers, mob control and delivering food and water to trapped victims. Some assisted the rescuers and supplied food and water to them.



Instructions came equally from local team leader/senior volunteer, from fire service officials or by their own initiatives.

4.2.3 Functioning of volunteers, tools and techniques used:

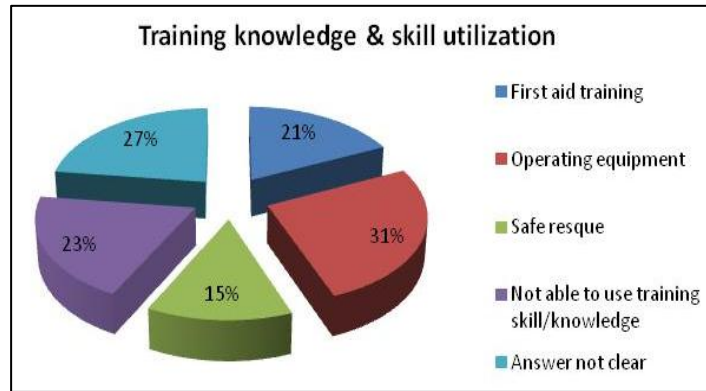
Different types of equipment were used by various organizations during the rescue operation. The urban volunteers had the opportunity/skill to use some of this equipment.

Responsibilities performed by the Volunteers	
Responsibilities	Response
Rescuing live victims	67%
Supply equipment	44%
Search and recover dead bodies	38%
Mob control	35%
Carrying wounded persons to ambulance by stretcher	27%
Assisting senior volunteers	17%
Supplying food/drinking water to trapped victims	13%
Providing food to other rescuers	8%
Others	19%

Equipment used in the operation	Equipment handled by the volunteers	Equipment used in the operation	Equipment handled by the volunteers
Camera	-	Helmet	-
Chain saw	-	Hydraulic hammer	-
Chipping hammer	16	Hydraulic drill	-
Chisel	9	Hydraulic jack	-
Crane	-	Cutter	9
Drill machine	2	Oxygen cylinder	1
Grinding machine	-	Pry-bar	12
Hand mallet	-	Rotary hammer	-
Hammer	38	Rotary rescue saw	2
Hand drill	5	Stretcher	7
Hack saw	22	String whistle	-
Head light	-	Torchlight	13

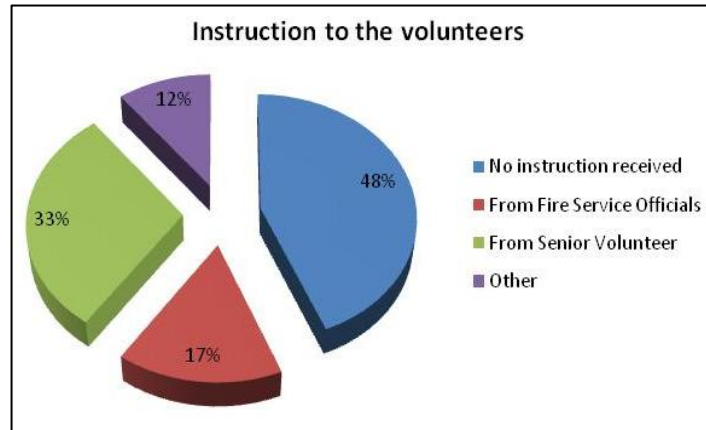
Majority of the volunteers (58%) reported that they received equipment from BFSCD and then from other sources such as Bangladesh Army, NGOs, private organizations, local community.

The operation was an opportunity for the volunteers to employ their knowledge and skills gained from training. Some consider to successfully employing the First Aid training, while others in operating equipment. On the flip side, a large number of volunteers (23%) believe that they were not able to use skills and knowledge imparted in training.



4.2.4 Coordination and management of the volunteers:

Effectiveness of volunteers in operation depends on the extent of guidance, leadership, and coordination by the principal professionals. Almost half of the volunteers, however, claimed to have not received any instruction from proper authority. A third received directions from senior volunteer / local team leader; some others from fire service officials. Volunteers do not have adequate understanding of inter-agency coordination.



Volunteers expressed dissatisfaction over the personal care and support during the operation. Some did not get food in time although almost half, eventually, were provided food from different organizations and more than one third from FSCD. The volunteers found the lack or inadequate restroom upsetting. Almost half stated the absence of basecamp to be problematic.

4.2.5 Achievement and drawbacks for the volunteers during the operation:

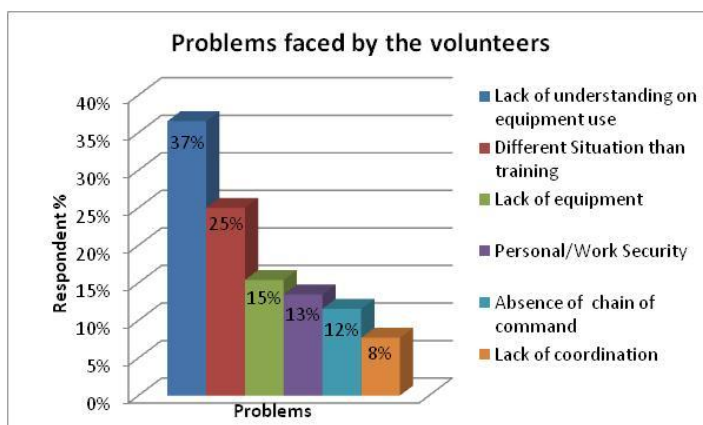
Almost half of volunteers valued their participation in rescuing live victims in such a monumental disaster to be a major accomplishment, while an equal number valued the practical experience to be of significance. Others saw more of personal experience when rescuing dead bodies and serving humanity. A few appreciated their roles in supporting others and being able to employ their trained knowledge and skills.

Volunteer achievement from the operation	
Rescue live victims	44%
Practical experience	42%
Rescue dead bodies	27%
Serving humanity	12%
Supporting different stakeholders	4%
Use of training skill	2%

The volunteers acknowledged this to be their first major rescue operation and did expect difficulties. Lack of equipment and/or lack of proper knowledge to use them was identified to be the most common problem. Many felt that the training did not provide them the adequate reference compared to the reality on the ground. Some volunteers recognised the weak chain of command and inadequate coordination to be major problems.

Given the feature of the collapsed concrete structure it is understandable that most of the volunteers saw the short supply of proper and modern equipment to be a particular challenge.

On leadership and coordination, 68% mentioned the lack of proper coordination and leadership. Only 4% acknowledged presence of coordination and leadership during the operation.



4.2.6 Lessons learned and observations of the volunteers:

The volunteers pointed out the need for future improvement including lack of coordination among different stakeholders (GO, NGOs and private sector), absence of proper guidelines, directions and leadership, inadequate knowledge and skill on rescue of victims or moving dead bodies, insufficient equipment and skill to operate them, lack of regular training and little practical experience.



Lessons learned – a need for:	Response
Better knowledge and skill on rescue of victims	33%
Proper coordination among stakeholders	8%
Better knowledge and skill on rescue equipment	8%
Effective leadership and planning	8%
Operational guideline on search & rescue	6%
Proper identification of volunteers	6%
Regular and more effective training	4%
Emergency transportation	2%

The volunteers demonstrated the accumulation of experience and feeling in a very short time. They express their sympathy for the deceased and the injured people; and they are traumatized to have seen so many dead bodies. However, they feel very proud to have been a part of the rescue operation for humanity and gained some valuable experience. They saw the need for more effective and regular training and the effective implementation of the building code to avoid such tragedies in future.

5. Recommended Programmatic Actions

Drawing lessons from the Rana Plaza disaster several recommended actions were generated as given below:

5.1 Search & Rescue:

- Organize more frequent training and refreshers for the volunteers to keep up their volunteer spirit
- Update their knowledge including on dead body management, efficient handling of specific search & rescue light equipment
- Provide quality volunteer gear and proper tools
- Further equip the FSCD with sufficient skilled manpower and necessary light search and rescue equipment; organize specialized rescue training; establish separate rescue squad
- Establish and practice effective command and control mechanism
- Establish and maintain a database of trained fast responders and available search and rescue equipment with different public and private sector organizations
- Develop and adopt a guideline on media management during disaster emergencies



5.2 Structural Safety

- Ensure implementation of the Building Code, tighten building safety inspection, improve and strengthen monitoring mechanism to ensure structural safety and quality construction, including retrofitting
- Introduce a certification mechanism to mitigate the risks of structural failure of buildings used as factories and for other commercial purposes

5.3 Safety Provisions for the RMG Sector

- Make it mandatory to have provision for proper and sufficient emergency exit and fire safety in the buildings used as garment factories
- Organize periodic fire safety training and emergency evacuation drills with the factory workers
- Establish model fire stations within EPZ (Export Processing Zone) areas

5.4 Post Disaster Response

- Map current status of the survived including the injured and organize medical treatment for those who are in need for full recovery
- Conduct counselling for the victims and rescuers suffering from trauma
- Arrange alternative employment for the disabled
- Recognize the role of volunteers and establish a rewarding mechanism for them to keep up the volunteer spirit in future

Developing Urban Volunteers: Making Cities Resilient

With the aim of reducing urban risks CDMP II developed a comprehensive Urban Volunteerism programme where tapping social capital is seen as fundamental in responding to large scale urban disasters. An urban volunteer network has been established and trained on search & rescue and first aid. Considering the need and nationwide attention for meeting a shortfall of rescue operations, the urban community volunteers are playing a vital role to provide city and nationwide support during emergency needs.

This force, which will number 62,000 nationwide, not only represents a significant response capacity, but signifies a personal commitment to one's own community. CDMP II is supporting the Fire Service and Civil Defence (FSCD) to train 30,000 urban community volunteers in nine urban centres. An elaborate training module has been prepared with extensive cooperation of CDMP. So far, 19,820 urban volunteers have been trained, of which 3,100 are women.

The training of urban volunteers is part of FSCD and CDMP II joint collaboration. The comprehensive training aims at developing effective first responders before and after the arrival of professionals in case of any disaster, and especially building collapse and earthquake. Volunteers have acquired skills in how to conduct search & rescue operations, how to extinguish a fire in its preliminary stage, how extricate trapped victims from collapsed buildings and how to provide first aid. They have been oriented on emergency evacuation and given basic tips on earthquake and fire. The urban volunteers are also being prepared to raise awareness and preparedness level of their communities on how to deal with disastrous events in a more organized manner.

For more information, please visit: <http://urbanvolunteer-fscd.gov.bd/>

6. Conclusions

Lessons from the Rana Plaza disaster demonstrated the valuable contributions of the FSCD – CDMP trained urban volunteers, both in terms of their mobilisation and their sustained deployment. On a personal basis, the volunteers also recognised the rewarding experience as a valuable incentive to their activism. It is, however, apparent that trained volunteers would be more effective when they are provided with proper mode for mobilisation, guidance and coordination and, equally important, adequate equipment and support services. There is also a need for advanced training to consolidate the experiences gained from monumental disasters such as the Rana Plaza.

The lessons should also confirm the visionary and strategic direction that has been taken by CDMP in training the urban volunteers. In light of increasing urban risks, the strategy should be continued, expanded and intensified in all other cities with continuing guidance and supervision and institutionalisation in the Fire Services and Civil Defence.

Annex 1: Possible Causes of Structural Collapse of Rana Plaza, Savar

The most destructive structural failure of Bangladesh is Rana Plaza, Savar. Several possible causes for the structural failure of the building have been identified.

- The building never had any approval from RAJUK and supervision during its intermittent construction to raise more and more floors was virtually absent. Officials of Savar municipality said the owner of the building had placed a layout plan in 2008, which they approved. However, instead of the six floors the owner was permitted to build, there were eight, and a ninth floor was under construction. Moreover, while permission was given for a commercial office block, the owner rented all floors above the ground floor to industrial enterprises.
- ADPC and Department of Disaster Science and Management of Dhaka University jointly expressed the opinion that the columns (the visible collapsed elements) were under-designed. They found a column size of 10" x 12" for the first four storeys which was reduced to 7" x 8" in the next phase of constructing the upper floors. Such undersized columns are not used even in residential buildings and this was a commercial-cum-factory building with heavy equipment. An assessment of other factory buildings carried out by Bangladesh University of Engineering and Technology after the Rana Plaza disaster concludes that not even structural columns of 12" x 12" appear strong enough to handle the factory load.
- In addition, the structure was built with poor quality materials and there were weaknesses in its foundation, built partly over a filled up pond, which did not anchor the building properly.
- The factory building had thousands of sewing machines and a generator in the upper factory floor. The vibration of the generator together with thousands of sewing machines, combined with undersized structural columns, threatened the building's integrity, which eventually led to the collapse of the structure.

Annex 2: List of Used Equipment in Rana Plaza Operation

SL No	Name of Equipment used	# provided by CDMP	# of Equipment used
1.	Chipping hammer	48	25
2.	Rotary hammer drill	48	25
3.	Rotary rescue saw	48	20
4.	Reciprocating saw	48	30
5.	Work lamp		30
6.	Bucket	48	50
7.	Torchlight		150
8.	Megaphone	48	15
9.	Ladder		10
10.	Electric extension cord	48	30
11.	Personal Protective Equipment	5,500 sets (Dispensable), 500 sets (Non-dispensable)	
12.	Hack saw	48	30
13.	Generator	48	20
14.	Hydraulic Jack	48	35
15.	Ventilation fan		30
16.	Sledge hammer	96	40
17.	Small hammer	144	50
18.	Crow bar	96	40
19.	Pray bar	144	50
20.	Chisel	96	40
21.	Shovel		50
22.	Chain saw		20
23.	Stretcher		50
24.	Back board		100
25.	Hydraulic cutter		10
26.	Bold cutter		30
27.	Power unit		20
28.	Ram jack		5
29.	Wood circular saw	20	15
30.	Come-Along	25	15
31.	Hydraulic speeder		10
32.	Pipe squeezer		10
33.	Air lifting bag	9	10
34.	Thermal imaging camera	16	5
35.	Search vision camera	20	5
36.	Cold cutter	2	2

Annex 3: Operation Debriefing: The Positive aspects of the Rescue Operation

<i>Sl No</i>	<i>Volunteer Group</i>	<i>Firemen Group</i>	<i>Fire / Rescue Specialists</i>	<i>Decision making FSCD group</i>
1	Improved consciousness about everyone's duties and responsibilities	All FSCD rescuers have done the rescue work dedicatedly and sincerely.	Within short period of time, a great number of live victims were rescued.	Huge number of live victims rescued.
2	Gathered practical experience of rescue operation with combined agencies.	Rescue work has been done without any major injury.	Though the place was not safe, professional rescuers took great risks to rescue trapped victims.	Successful operation with limited equipment & resources. Applying all techniques of CSSR operation.
3	Feel proud to rescue the many live victims from this collapsed building.	FSCD rescuers gained confidence to serve the country.	Got all kinds of support from the Government.	Enthusiastic leadership of Director General of FSCD. Less injury/casualty, more success.
4	Got the opportunity to apply training knowledge and various types of rescue equipment, using training in rescue operation.	It was easy and speedy to receive necessary equipment from many public companies.	Dedication of community volunteers' effort was excellent.	Remarkable response from untrained community people.
5	Provided water, oral saline, dry food to trapped victims.	Food, drinking water, oral saline, etc. were available during the operation.	High official closely monitoring and present all the time.	Free food & drink support from FSCD Directorate and others.
6	General people participated spontaneously with the rescuers and medical team.	General people helped a lot during the operation.	General people helped to perform rescue operation successfully.	Good experience for the rescuers. Best weather for rescue operation.
7	Developed mentality to rescue victims as fast as possible and to serve the country.	Law enforcement agencies (Police, RAB, AFD), community volunteers, Anguman Mofidul Islam, Red Crescent were very sincere and supported a lot.	All agencies like CDMP, Action Aid, NARRI, USAID, UNDP and others supplied rescue equipment & necessary support.	Remarkable need based support from donors & individuals. Appreciation from print & electronic media and the wider population.

Annex 4: Operation Debriefing: Identification of Limitations of the Rescue Operation

<i>Sl No</i>	<i>Volunteer Group</i>	<i>Firemen Group</i>	<i>Fire / Rescue Specialists</i>
1	Lack of Personal Protective equipment (PPE), rescue equipment, oxygen, light, fire extinguisher, stretcher/ backboard, good quality facemask.	Shortage of small hydraulic cutter, right type of chipping hammer bit, smoke ejector tunnel, PPE, head light with helmet, oxygen pipeline, two-part ladder.	Need more expandable, non expandable PPE, need heavy duty hydraulic shoring.
2	Improper chain of command, absence of guideline and lack of coordination.	Lack of motivation for rescuers	Lack of good managerial coordination & communication, lack of spot plan, lack of effective communication with volunteers. Establish effective incident command post.
3	Problem created due to crowding.	Need one complete set of rescue equipment for each group.	Need proper safety cordon of operational area and scene size up.
4	Lack of training in dead body management.	Need more advanced rescue training.	Professional CSSR training up to fireman & also officials. Fire fighters should be more trained in operating rescue equipment (PSDT)
5	Insufficient transportation for quick response.	Lack of adequate lifeline & safety belt.	Lack of sufficient vehicle for transportation. Need more logistic lay-out station.
6	No camp/ residence facilities and food was not on time.	Lack of fireman axe, fire proof iron cutter, shoring equipment, bucket & belcha, night vision spectacles.	Need effective assessment with the support of professional rescuers, proper documentation of dead and survivors. Effective press handling.
7	Lack of communication system like megaphone/ walkie-talkie.	Lack of walkie-talkie, megaphone communication between rescue members.	Need more megaphones and stretchers.
8	Lack of security for the female volunteers.	Lack of first aid kit.	Effective shifting of duties. Safe and proper accommodation should be ensured for rescuers.

Annex 5: Operation Debriefing: Suggested Action Plans

Action plan: (Volunteers)

Sl No	Issue	Action Plan	Responsible organization
1	Lack of guideline & chain of command	Establish incident command post and distribute the duties to every group. Group leader will report to the incident commander	FSCD
2	Lack of PPE, helmet with light, tent, body bag & backboard	Procure good quality PPE, helmets with light, body bags& backboards	Govt./FSCD/Donor agency
3	Communication equipment	Procure megaphones, walkie-talkies	Govt./FSCD/Donor agency
4	Lack of rescue equipment	Procure necessary emergency rescue equipment	Govt./FSCD/Donor agency
5	Lack of safety	Increase safety awareness and practice	Individually & institutionally
6	Lack of food, drinking water & toilet	Provide sufficient food, drinking water & set up toilet	Govt./FSCD/City corporation
7	Medical team	Establish medical team	Govt./FSCD
8	Injured volunteer responsibility	Arrange fund with discussion	Govt./FSCD/Donor agency
9	Lack of vehicle	Arrange vehicle for transportation according to the requirements	Govt./FSCD/Donor agency
10	Lack of experience handling heavy equipment	Ensure regular training/ exercise to handle the heavy equipment	FSCD
11	Dead body management	Provide dead body management training	FSCD/Donor agency

Action plan: (Firemen)

Sl No	Issue	Action Plan	Responsible organization
1	Hydraulic cutter, smoke ejector, headlight, walkie-talkie	Procure small hydraulic cutters, smoke ejectors with long tunnel and walkie-talkies	Govt./ FSCD
2	Shoring wood and necessary accessories	Take necessary action to supply shoring wood and necessities in every fire station	FSCD
3	PPE, equipment and accessories	Immediate supply to every fire station	Govt./FSCD/ Donor agency
4	Inadequate facilities	Incentive and other facilities	Govt./FSCD

Action plan: (Highly skilled FSCD Officials)

Sl No	Issue	Action Plan	Responsible organization
1	Lack of logistic room	Logistic room should be stabilized for every work site	FSCD
2	Members of rescue team	Every rescue team should consist of 12 persons	FSCD
3	Need of doctor and structural engineer	Every rescue team should be advised and assisted by a doctor and structural engineer during their operational work	Concerned authority
4	Equipment handling	Rescue equipment should be operated only by trained and skilled rescuers	FSCD
5	Safety officer	A safety officer should be engaged for every rescue team	FSCD
6	Inventory sheet	Inventory sheet of rescue equipment must be available in the work area	FSCD
7	Numbering hole	Every hole should be marked with number	FSCD
8	Prior plan	Prior plan drawing should be made before cutting a hole.	FSCD
9	PSD training	Make a schedule and start PSD training	FSCD/CDMP/Other NGOs
10	Communication	Use of megaphones, walkie-talkies and also developing a PA system	FSCD
11	Balanced rescue team	Every rescue team should be a balanced team headed by a qualified and highly trained rescue officer.	FSCD
12	Shifting and rotation	Shifting needed every 8 hours. After 15 minutes, there should be rotation	FSCD
13	Accommodation	Safe and proper accommodation should be ensured for rescuers	FSCD
14	Head camera and head light	Adequate head camera and head light for rescue team	FSCD
15	Manpower management	Proper manpower management	FSCD
16	Skilled rescuer	List of selected skilled rescuers should be maintained	FSCD
17	Manpower	Increase manpower	Ministry of Home Affairs

Summary Recommendations:

SI No	Volunteer Group	Firemen Group	Fire / Rescue Specialists
1	Increase FSCD manpower	Departmental rescue equipment	To be a member of INSARAG and follow INSARAG guideline
2	Develop rescue equipment immediately	Modern rescue equipment	To formulate central & divisional elite rescue force like in Singapore
3	Develop FSCD leadership	International standard training	To provide special fund for ERF and volunteers' sustainability
4	Build up a volunteer organization	Provide oxygen cylinder	To gather experience from real scenario of devastated area abroad
5	Develop the relationship between volunteers and local people	Procure two-part ladder	To arrange yearly & half-yearly simulation drills for rescuers and volunteers with other responding organizations
6	Procure vehicle for FSCD manpower	Fire safety lock cutter	To make a communication bridge between FSCD & volunteers by arranging jamboree
7	Arrange refresher courses for volunteers every 3 months	Night vision eye protection	Procurement of equipment for proper utilization of volunteer teams and for building the capacity of volunteer team.
8	Conduct earthquake demonstration every month in all schools of Dhaka city with support of volunteers and FSCD personnel	Special rescue team formation and provide incentive for team members	To develop more volunteers for earthquake disaster, to take initiatives to sustain the volunteers from Govt. and to arrange advanced training for the volunteers.

Annex 6: Situation Reports of CDMP on Rana Plaza Operation



Disaster Management Information Centre (DMIC) Ministry of Disaster Management and Relief (MoDMR)

Disaster Management Bhaban (6th Floor)
92-93 Mohakhali C/A, Dhaka-1212, Bangladesh
Phone: +88-02-9890937, Fax:+88-02-9890854
Email: info@dmic.cdmp.org.bd
Web: <http://www.cdmp.org.bd>

Emergency
Title:

Situation Report on Building Collapse at Savar, Dhaka

Event
Location:

Near Savar Bus Stand
90⁰15'27''E 23⁰50'49''N (Approx)

Event
Date:

WED-24-APR-2013:09:30AM

Transmission
Date/Time

WED-24-APR-2013:12:20 PM
TUE-14-MAY-2013:03:00PM

Prepared
By:

DMIC,CDMP,MoDMR

Chronology of Situation Reports on Building Collapse at Savar (Rana Plaza), Dhaka

Date	Description	Dead till date	Live rescued/injured	Remarks
24/04/13	<p>An eight-storied Commercial Building named Rana Plaza near Savar bus stand collapsed this morning at around 9:30 am. Yesterday (23.04.13), cracks were found in the building. The 1st floor subsided while the upper portion of the building collapsed. Many garment workers have been trapped inside the collapsed building.</p> <p>Rescue Operations:</p> <p>The local people started rescue operation immediately after the incident. Bangladesh Army, Fire Service, BGB, Police and different volunteer teams joined in the rescue activities. Police and RAB are engaged to maintain law and order situation at the site.</p> <p>DIG, DC & DRRO of Dhaka as well as UNO and PIO of Savar Upazila and local leaders are Cooperating and coordinating the whole rescue operations.</p> <p>Medical Activities:</p> <p>Four Medical teams from Bangladesh Army and ten teams from health department, the doctors and Medical workers of local hospital and clinic are engaged for treatment of injured people. The injured people are admitted in different hospital and clinic including Enam Hospital at Savar.</p> <p>Spot Visits:</p> <p>Home Minister, Health Minister, State Minister for LGRD, local MP Mr. Towhid Jang Murad, Abdul Matin Khasru MP and Mr. Israfil Alam MP, Divisional Commissioner of Dhaka and Additional Secretary of MoDMR, Mr. Asit Kumar Mukutmoni, DIG and DC, Dhaka visited the site.</p> <p>Mr. Mohammad Abdul Wazed, DG, DDM, high officials of district administration and Bangladesh Army, DRRO, Dhaka, UNO and PIO of Savar and local leaders are at site and coordinating the rescue operations.</p> <p>Honourable Minister of MoDMR instructed to his Ministry / Departments to provide highest level of assistance for injured and dead persons.</p>	Deaths: 81	Injured: 574	Dead bodies handed over: 62
25/04/13	Search and rescue operation ongoing	Deaths: 153	Injured: 800	Dead bodies handed over: 127
26/04/13	Search and rescue ongoing	Deaths: 294	Live rescued: 2300 Injured: 984	Dead bodies handed over: 245
27/04/13	<p>Search and rescue ongoing.</p> <p>Relief Activities:</p> <p>Each family receiving a dead body is getting BDT</p>	Deaths: 326	Rescued lives: 2411 Hospitalized (seriously	Dead bodies handed over: 269

Date	Description	Dead till date	Live rescued/injured	Remarks
	<p>20,000. Totally BDT 5,380,000 has been distributed to 269 families.</p> <p>Each injured person will get BDT 5,000. BDT 3,000,000 has been distributed among 600 injured.</p> <p>So far BDT 20,000,000 has been allocated for distribution among families with dead and injured people.</p> <p>Rescue Operations:</p> <p>Bangladesh Army, Navy, Fire Service, BGB, Police and different volunteer teams continue rescue operations. Police and RAB are engaged to maintain law and order at the site.</p> <p>1,200 volunteers from Dhaka, Keraniganj and Narayanganj area trained by Comprehensive Disaster Management Programme are engaged in the rescue operation.</p> <p>DIG, DC & DRRO of Dhaka as well as UNO and PIO of Savar Upazila and local leaders are cooperating and coordinating the whole rescue operations.</p> <p>To purchase rescue equipment instantly, MoDMR has given BDT 500,000 to Fire Service and Civil Defence.</p> <p>In addition, individuals and different organizations are providing dry food, water, medicine, cash money, juice, clothes, torch lights, etc. instantly.</p> <p>Red Crescent Society provided 10 multipurpose concrete cutters for rescue operation, 700 bags for carrying dead bodies, 200 blood collection bags and 60 small size oxygen bags.</p> <p>Medical Activities:</p> <p>Fifteen medical teams from Bangladesh Army, two from Navy, one from Air Force, one from BGB and ten teams from Health Department, the doctors and medical workers of local hospital and clinic are engaged for treatment of injured people. The injured people are admitted in different hospital and clinic including Enam Hospital at Sava. Rescued 984 injured persons are getting treatment in Enam Hospital and in other hospitals and clinics.</p>		injured): 934	
28/04/13	Search and rescue ongoing	Deaths: 363	Rescued lives: 2436 Hospitalized (seriously injured): 968	Dead bodies handed over: 306
29/04/13	From 29.04.2013, 2nd phase of rescue operation started with heavy equipment also special camera and dog squad are being used to identify lives and dead bodies.	Deaths: 381	Total rescued: 2818 Rescued lives: 2437 Hospitalized	Dead bodies handed over: 329

Date	Description	Dead till date	Live rescued/injured	Remarks
			(seriously injured): 968	
30/04/13	Search and rescue ongoing	Deaths: 384	Total rescued: 2821 Rescued lives: 2437 Hospitalized (seriously injured): 968	Dead bodies handed over: 330
01/05/13	Search and rescue ongoing	Deaths: 388	Total rescued: 2825 Rescued lives: 2437 Hospitalized (seriously injured): 968	Dead bodies handed over: 338
02/05/13	Search and rescue ongoing	Deaths: 407	Total rescued: 2844 Rescued lives: 2437 Hospitalized (seriously injured): 968	Dead bodies handed over: 364
03/05/13	Search and rescue ongoing	Deaths: 515	Total rescued: 2952 Rescued lives: 2437 Hospitalized (seriously injured): 968	Dead bodies handed over: 418
04/05/13	Search and rescue ongoing	Deaths: 538	Total rescued: 2975 Rescued lives: 2437 Hospitalized (seriously injured): 968	Dead bodies handed over: 449
05/05/13	Search and rescue ongoing	Deaths: 626	Total rescued: 3054 Rescued lives: 2437 Hospitalized (seriously injured): 968	Dead bodies handed over: 490
06/05/13	Search and rescue ongoing	Deaths: 668	Total rescued: 3105 Rescued lives: 2437	Dead bodies handed over: 534

Date	Description	Dead till date	Live rescued/injured	Remarks
07/05/13	Search and rescue ongoing	Deaths: 688	Total rescued: 3125 Rescued lives: 2437	Dead bodies handed over: 551
08/05/13	Search and rescue ongoing	Deaths: 742	Total rescued: 3179 Rescued lives: 2437	Dead bodies handed over: 583
09/05/13	Search and rescue ongoing	Deaths: 866	Total rescued: 3292 Rescued lives: 2437	Dead bodies handed over: 648
10/05/13	Search and rescue ongoing	Deaths: 942	Total rescued: 3368 Rescued lives: 2437	Dead bodies handed over: 715
11/05/13	'Miracle girl' Reshma found alive under the rubble on the 17th day.	Deaths: 1060	Total rescued: 3483 Rescued lives: 2438	Dead bodies handed over: 777
12/05/13	Search and rescue ongoing	Deaths: 1124	Total rescued: 3547 Rescued lives: 2438	Dead bodies handed over: 819
13/05/13	Search and rescue ongoing	Deaths: 1130	Total rescued: 3553 Rescued lives: 2438	Dead bodies handed over: 834
14/05/13	Rescue operation officially ended at 06:00 am	Deaths: 1130	Total rescued: 3553 Rescued lives: 2438	Dead bodies handed over: 836

The volunteer who repaid a debt

Thursday, 2 May 2013

When the Rana Plaza collapsed in Savar over a week ago, the Fire Service and Civil Defence (FSCD) immediately realized that they were confronted with an industrial disaster of an unprecedented scale in Bangladesh.

As the FSCD organised themselves on the ground, one of the calls they made was to Habib-ul-Islam Sumon, their Chief volunteering coordinator, and asked him arrange a team to assist the search and rescue. Within hours Sumon had 180 trained volunteers en route to Savar:



ordinary citizens like himself, trained for post disaster rescue work with UNDP's help, and driven by a zeal that saw more than 2,500 lives saved from the rubble.

Sumon's journey to Savar actually started 15 years earlier, the day his father collapsed from a stroke. "In 1997 my father suffered a massive stroke and we couldn't find a way to get him to hospital. My brother sent me to find help and I instinctively ran to the local fire department."

"I'll never forget that it was the fire service men who saved my father's life. From that day onwards I wanted to help the fire service out, but never really had a chance", said Sumon.

That was until three years ago when his local fire department announced that they would be training urban volunteers in disaster response. He jumped at the opportunity and when he asked if he could attend, they asked him to put together a group of 50 locals to start the volunteer group.

Within a few days he had the numbers and they all underwent a CDMP funded disaster response training. As part of their mandate CDMP helps facilitate the training of volunteers to help in urban disaster response activities and Mr. Sumon and his band of volunteers are proud graduates of the initiative.

CDMP channels support through government and development partners, civil society and NGOs into a people-oriented disaster management and risk reduction partnership. The \$ 75.2 million project is jointly funded by UKaid, EU, SIDA, AusAID, Norway, UNDP and the GoB. The training of volunteers represents a fraction of the work of CDMP but remains essential to its mandate.

Mohammed Sifayet Ullah, UNDP Disaster Management Programme Analyst, says, "In most disasters, communities act as the first responder. Having a trained and equipped force within the communities can make the difference between life and death", when talking about the need for urban volunteers. CDMP supports the disaster volunteerism in Bangladesh knowing that first responders, be they trained professionals or volunteers have an important role to play in most disasters.

Mr. Puji Pujiono, Project Manager CDMP II, believes that volunteerism has a multiplier effect not only in the communities they help people in but also in disaster response in general. "Volunteers are

essentially community liaisons. They can be assets of their respective communities, however this potential can only be optimized if they are trained", says Mr. Pujiono.

Having been trained in fire and earthquake response operations by the FSCD, the urban volunteers have been called into action many times before the Savar tragedy. They have responded to fires across the city and were instrumental in evacuating a dilapidated building in Shakhari Bazar recently. But nothing could have prepared them for what they encountered in Savar.

"Five buses filled with volunteers arrived at Savar and only after we got down did we realise the scale of tragedy. We immediately made use of our training as we used search and rescue techniques that we had earlier learned", said Sumon.

The volunteers spread out across the disaster zone, helping pull people from the rubble and often going into dangerous crevasses with torch lights to try and locate other survivors.

"I entered where the 7th floor should have been and heard wailing. People were trapped and injured and I did whatever I could to save them. I cannot describe those scenes, but it will stay with me for life."

Wearing orange vests the urban volunteers were ever present throughout the search and rescue operation their pictures plastered all over the media, but Mr. Sumon remains humble.

"We did what any person would have done, the only difference is that with our training we were working in a coordinated manner and helped facilitate the work there. In 8-hour shifts more than 250 volunteers worked around the clock and put the lives of others before theirs. I salute them", said Sumon.

আমরা জনগণের পক্ষে

বাংলাদেশ প্রতিদিন

ঢাকা | মঙ্গলবার, ৭ মে ২০১৩ | ২৪ বৈশাখ ১৪২০

উদ্ধার কাজে ১১ দিন একসঙ্গে স্বামী-স্ত্রী

সাভারের রানা প্লাজার ধ্বংসরূপে ১১ দিন থেকেই উদ্ধারকর্মীর কাজ করছেন এক দম্পতি। তারা নিজেদের সুখ-দুঃখে যেমন এক অপরের সঙ্গী। তেমনি আত্ম-মানবতার সেবাও একই সঙ্গে নিয়োজিত রয়েছেন সাভারের ধ্বংসরূপে।

তারা হলেন হাবিবুল ইসলাম সুমন ও সিনথিয়া হোসেন। উদ্ধার অভিযান নিয়ে কথা হয় তাদের সঙ্গে। তারা বলেন, আমরা দুজন স্বামী-স্ত্রী। ফায়ার সার্ভিস সিভিল ডিফেন্সের কমিউনিটি ভলান্টিয়ার হিসেবে দুর্ভোগ মন্ত্রণালয়ের সহায়তায় সিডিএমপির অধীনে বিধস্ত ভবনে অনুসন্ধান, উদ্ধার, অগ্নিনির্বাপণ ও প্রাথমিক চিকিৎসা বিশেষ প্রশিক্ষণ গ্রহণ করি। আমরা শপথ নিয়েছি, দুর্ভোগে মানবতার সহায়তার জন্য নিজেদের উৎসর্গ করব। এরপর থেকেই বিভিন্ন দুর্ভোগে ২৮০ জনের বাহিনী নিয়ে বিভিন্ন কাজে অংশ গ্রহণ করি।

সাভারে উদ্ধার কাজ করতে গিয়ে সাক্ষাৎ হয় মহামান্য রাষ্ট্রপতি আবদুল হামিদের সঙ্গে। তিনিও আমাদের কাজের প্রশংসা করেন। তিনি আমাদের নির্দেশ দিয়েছেন সর্বশেষ লাশ উদ্ধার না হওয়া পর্যন্ত উদ্ধার অভিযানে সহায়তা করতে।

□ নিজস্ব প্রতিবেদক



Annex 8: References

- I. The Financial Express. *NBR to look into bonded warehouse facility for Rana Plaza factories*. Published on Sunday, 19 May 2013.
(<http://www.thefinancialexpress-bd.com/index.php?ref=MjBfMDVfMTIfMTNfMV8yXzE2OTc4MQ==>)
- II. The Daily Star. *Murder, not accident*. Published on Thursday, April 25 2013.
(<http://www.thedailystar.net/beta2/news/not-an-accident>)
- III. The Telegraph. *Bangladesh building collapse: Dhaka buildings not given final safety clearance*. Published on Tuesday, 07 May 2013.
(<http://www.telegraph.co.uk/news/worldnews/asia/bangladesh/10041197/Bangladesh-building-collapse-Dhaka-buildings-not-given-final-safety-clearance.html>)
- IV. The Daily Star. *Rising high, illegally*. Published on Thursday, April 25 2013.
(<http://www.thedailystar.net/beta2/news/rising-high-illegally/>)
- V. Zain Al-Mahmood, Syed. *Matalan supplier among manufacturers in Bangladesh building collapse: Manufacturer housed in building that collapsed – killing at least 76 – previously supplied discount fashion chain*. Published in The Guardian on 24 April 2013.
(<http://www.guardian.co.uk/world/2013/apr/24/bangladesh-building-collapse-kills-garment-workers>)
- VI. Hisham Bin Mustafa. *Brief History of the Rana Plaza Tragedy*. Published on Tuesday, 14 May 2013.
(<http://news.priyo.com/2013/05/14/end-savar-battle.html>)
- VII. DMIC-CDMP. *Situation Report on Building Collapse at Savar, Dhaka*. 24 April 2013 – 14 May 2013.
- VIII. FSCDD,B. *Report of Operational Debriefing on “Rana Plaza” Building Collapse Tragedy* held on 11 May 2013 at FSCD Training Complex, Mirpur, Dhaka.
- IX. FSCDD,B. *List of Equipment Procured with CDMP II Resources by Bangladesh Fire Service & Civil Defence*.
- X. UNDP. *The volunteer who repaid a debt*. Published on Thursday, 2 May 2013.
(<http://www.undp.org.bd/info/events.php?newsid=1388&t=ln%20News>)
- XI. ADPC. *Rapid Assessment on Collapsed Building in Savar*.



June 03, 2013 - The Honourable Norwegian Minister of International Development Mr. Heikki Eidsvoll Holmås met with the CDMP supported Fire Service Urban Volunteers and lauded their performance in saving people's lives at Rana Plaza in Savar.

The Minister congratulated the urban volunteers for saving lives of people in need and for successfully undertaking the search and rescue operations. He praised the overwhelming manifestation of voluntarism and reaffirmed Norway's support for Bangladesh.