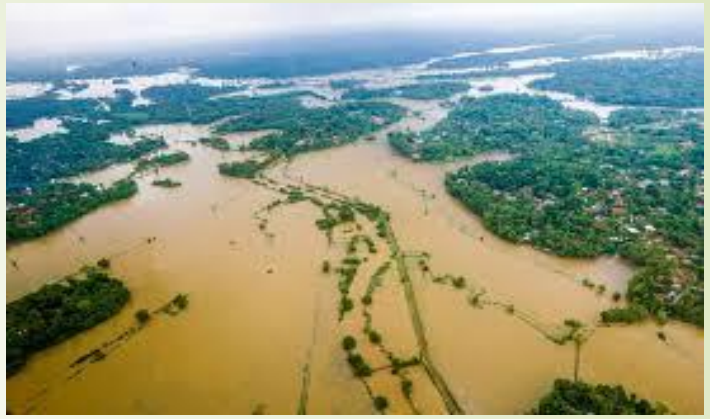
Disaster awareness among Sri Lankan School children

K. Prasanna Chandith
Director (Administration)
SLIDA



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Definitions of Disaster and Disaster Management

- Disasters are displace the structural, economic, organizational, cultural and spiritual well-being of communities by destroying their means of existence. It is created by the human involvement or natural phenomena (Paton & Johnston, 2001: 270)

- Disaster Management is an unexpected event which is adversely effect to the people or resources and affect negatively to the organization (Kelly and Booth,2004)

Introduction

- Due to the climate change, Increasing the cost and the results of the Disasters and also increased the communities in relation to the vulnerability to hazards (Johnson A et al.,2016)

- According to the World Disaster Report(2015,p248,250), From 2005 to 2015 reported disasters are 6090; Number of death cases are 771,991
- Increasing the awareness of disaster management is crucial

This Study: Sri Lanka

- Natural disasters occur in Sri Lanka e.g., Tsunami in 2004
- In addition, droughts, flooding, landslides are quite common disasters that impact on people's daily lives (World Bank,2012:96)
- It costs people's lives, livelihoods and damages to properties.
- It is also an enormous strain on the government annual budget. 2006 floods cost of damage is Rs. 690 million and 2007-2011 Government expenditure on natural disaster exceeds Rs. 1.7 billion (Satarasinghe S. 2017)

Number of affected people and number of Death cases in Sri Lanka 2014-16 (NDRSC, 2017)

Year	Drought	Flood	Landslide	Cyclone	Lightening	Deaths
2014	989,046	430,807	2,681	13,844	260	87
2015	196,920	174,395	1,010	9,974	390	95
2016	1,164,515	567,767	85,422	15,660	404	200

Global Paradigm shift of DM

- **Yokohama strategy and action plan for a safer world (IDNDR, 1994)**
- **Hyogo Framework for Action (HFA) (UNISDR, 2005)**
- **Sendai Framework of Disaster Risk Reduction-2015-2030 (SFDDR,2015) identified seven targets to achieve seven targets**
- **Among the seven targets**
- **(d)** Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
- Identified four priority areas
- **Priority 1:** Understanding disaster risk.
- **Priority 2:** Strengthening disaster risk governance to manage disaster risk.
- **Priority 3:** Investing in disaster risk reduction for resilience.
- **Priority 4:** Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction.

Disaster vulnerable group

- Children, Pregnant mothers, Disability people, elderly people – (Wisner et al., 2012; Jubry, 2003)

- children are the most vulnerable group (Boon & Paglino, 2015; Dave et al., 2003; Sakar, 2005; Webster, 2008; Wisner et al., 2004)

Education on DM

- Disaster education is most important to the children (Anderson, 2005; Back et al., 2009; Ronan et al., 2012)
- Schools should lead disaster education for increasing children's awareness of disasters (Webster et al., 2008)

Education of disaster management: Popular examples from other countries

Country	DM included
Japan	Every day life Model (Kitagawa, 2015)
India	A part of Geography unit (Alam & Horo, 2015)
Nepal	A part of Science, Environment, Social studies units (Shiwaku et al., 2007)
Australia	Formal secondary education (Dufty, 2009)
New Zealand	From primary education (King, 2013)
Bangladesh	From primary education (Majeed, 2015)
Indonesia	From primary education (Hayashi, 2013)
Sri Lanka	**From grade 6 – 9 (Compulsory units) since 2005**

Research Question

- Is there a difference between,

  awareness level of school children who have faced disasters and educated on disaster management

  and

  school children who have not faced disasters but only learnt it in the school curricular?

Disaster management education as a part of Sri Lankan school curricular

- Introduced after Indian Ocean Tsunami in 2004 (Bitter and Edirisinghe, 2013)
- Collaboration between the Ministry of Education, Sri Lanka and the German Agency for International Corporation in 2005 (Bitter and Edirisinghe, 2013)

Subject	Grade	Area of Learning
Science	Six	climatic change - whether, climate, natural disasters occurred due to the climatic change.
	Seven	nature of the earth- understand the earth and seismic waves, seismometer, tectonic plates and plate tectonic
	Eight	natural disasters-drought, flood, landslide/earth slip and lightening /thundering.
	Nine	Management of natural disasters and associated risk-Elnino, effect of drought, conditions associated with drought and management of tsunami disaster
Life competencies and citizenship education	Nine	types of accidents and disasters which occurs due to natural and human activities

Experience from other countries

- DM education should be more practical on the basis of more conversation in the teaching process, Shaw et al.(2004)-Japan
- Disaster education is should be beyond the school and it is as a part of life, Kitagawa K. (2015)-Japan
- The most important thing when preparing students for disasters, how to deliver the programs to the children in most effective and efficient way, Boon and Pagliano (2014) –Australia
- DE should be more activity-based and need to be linked to the community activities, Shiwaku et al.(2007)- Nepal
- provide extracurricular activities and disaster –education related campaigns which are more effective than the learning of theory, Tuladhar et al. (2014)- Nepal
- There is no difference between disaster management knowledge about the male and female students, Soffer Y et al.,(2009) and Turkish Ministry of Education- Israel and Turkey
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Methodology

- Quantitative research with a sample of 360 (grade 9 students)
- The questionnaire was adapted from Tuledhar et al., (2014) (A Nepal study) and Mamogale, (2011)(A South African Study) and based on grade six to nine sylubas
- Contextualization: Relevant questions were re-scaled to suit the understanding of the Sri Lankan students.
- Questionnaire was translated into Sinhala and back translated to ensure the accuracy.
- Time period: August –September 2017

Table 1: Sample Profile

	Number	(%)
Gender		
Male	170	47
Female	190	53
Actual Disaster Experience		
Yes	258	71.7
No	102	28.3
School Type		
1-AB	117	32.5
1-C	174	48.4
Type -2	69	19.1

Table 2: Impact of Actual Disaster Experience (T-Test results)

	With Disaster Experience	Without Disaster Experience	Difference (Absolute index Increment)	Relative Index Increment %
Pre-Disaster	6.17	5.80	0.37 **	6.4
	(0.95)	(0.18)	(0.19)	
During Disaster	3.81	3.37	0.44 ***	13.0
	(0.075)	(0.11)	(0.14)	
Post Disaster	2.87	2.56	0.31 ***	12.0
	(0.051)	(0.081)	(0.096)	

Note: *, **, * indicate statistical significant of 1%, 5% and 10% error level, standard error levels are in Parenthesis**

Table 03: Disaster Awareness by gender

Stage	Disaster Awareness		
	Male	Female	Difference
Pre-disaster	6.20	5.95	0.25
	(0.11)	(0.12)	(0.17)
During disaster	3.62	3.75	0.12
	(0.09)	(0.087)	(0.12)
Post-disaster	2.78	2.78	0.00
	(0.062)	(0.062)	

Source: Own calculations based on survey data, 2017

Note: Standard errors are in parentheses

Key Findings

- Experiencing an actual disaster situation seems to play a bigger role in enhancing the students disaster awareness under all three phases.
- Disaster awareness index under all three phases are significantly higher for the students who have faced at least one disaster compared to the students who have no disaster experience.
- Index Increment is higher in the case of during the disaster compared to pre and post disaster stages for the students who have actual disaster experience.
- No significant difference knowledge about the disaster management between male and female students in the pre, during and post disaster stages.

Policy recommendations

- Disaster management without a practical module does not seem to play a bigger role in enhancing disaster awareness among school children.
- A module for disaster simulation exercises, mock exercises, sharing experience and disaster drills should be included in the teaching method
- It is no need to much consideration about the gender when implement the teaching learning process

Limitations and future research

- All the respondents in the sample have studied the school curricular on disaster management. Therefore, it is impossible to empirically test the effectiveness of the curricular as there is no a control group.
- Therefore, a possible future research would be to conduct an experimental study by taking a control group into account.
- The study is limited to the context of Sri Lanka. Therefore, the study does not provide an international comparison.
- Accordingly, a feasible future research would be comparing disaster awareness among school children across countries.
- Also, the current study is restricted only to perspectives of students. However, teacher and instructors who deliver the curricular play a vital role in enhancing children's awareness. Thus, a future study should take into account the characteristics of teachers/instructors and their role.

Thank You