DISASTER RISK REDUCTION EDUCATION IN VANUATU A BASELINE STUDY FOR SAVE THE CHILDREN AUSTRALIA



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The views expressed in this study are those of the authors and do not necessarily represent those of Save the Children Australia.

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Executive Summary

This baseline study reviews strengths, needs and gaps in current curriculum provision and delivery of disaster risk reduction (DRR) in Vanuatu primary schools; it examines existing knowledge and practice and identifies key issues. The methodology that has been employed for the study has been one of desk-based meta-research coupled with empirical, on the ground, research in Vanuatu using questionnaires and focus group and individual interviews.

Windows of opportunity for DRR teaching and learning are to be found through the primary grade levels and in different subjects areas. There are *direct* opportunities (i.e. a hazard- or disaster-related topic or learning resource forms part of the curriculum) as well as *indirect* opportunities (i.e. hazard- and disaster-oriented work can be integrated in topic-free curriculum areas). In the current curriculum General Studies and Language are the primary carriers of DRR. Examples of a fully-fledged DRR approach going beyond explanation of natural hazards and guidelines on safety to also encompass disaster prevention, mitigation and adaptation are not in evidence.

The new primary curriculum as heralded by the Vanuatu National Curriculum Statement (VNCS) offers rich potential for DRR curriculum within its crosscurricular components and paramount outcomes and given its embrace of a life skills approach. This potential is fully recognized by officers of the Ministry of Education Curriculum Development Unit. Given that the cross-curriculum components are to apply to all grade levels and subject areas, this presents an auspicious moment to work to integrate DRR horizontally and vertically through the primary curriculum.

The Ministry of Education's decentralization strategy opens the door for elements of localized DRR curriculum while the Ministry's emphasis on traditional knowledge and culture allows for a helpful DRR learning focus on indigenous risk reduction practices.

VNCS sets great store on constructivist pedagogy. This opens the way for a fully-fledged DRR pedagogy embracing active, interactive and experiential learning in class and out in the community. The size of the constructivist task should not, however, be underestimated in that only isolated examples of teachers employing active, engaged DRR learning were discovered. The range of teaching approaches being used is unadventurous, teachers calling for new resources, including a guidebook, to help them in this regard.

Teachers expressed strong interest in professional development that informs them about hazards and disasters and up-skills them in new ways of facilitating DRR learning. New in-service developments at the Vanuatu Institute for Teacher Education could be very helpful in this regard.

Primary students expressed concern about natural hazards and declared themselves as competent in facing some hazards but not others. They expressed great interest in learning more about hazards and disasters in school using a diversity of learning approaches and resources. 'Last year, we were receiving a warning about tsunamis. Students had not had an idea about what was going to happen. So I had to tell them to go home and tell their parents that they should go out and find somewhere safe. But only a few parents acted. Most of the parents did not act. They were at the sea, waiting for the tsunami to come. They had not faced it in real life. They have heard about it but have not seen it. They wanted to see it. It is important to teach kids now so that for the whole of their lives they would know what to do and save lives, save lives of their relatives, save lives of people in their village.'

- Principal, Eton Primary School, Efate, Vanuatu

The island Republic of Vanuatu is one of the most climatologically and seismically vulnerable countries in the world. Situated in the Pacific's 'ring of fire' and 'cyclone belt', it is susceptible to volcanic eruptions, earthquakes, tsunamis, cyclones and both flood and drought. With the onset of climate change extreme weather events are increasing in frequency and intensity, and sea levels are rising.¹

Concerned to build the disaster preparedness and resilience of Vanuatu communities and recognizing that disasters are undermining of national sustainable development, the Vanuatu Government was one of the 168 UN Member States that adopted the *Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters* at the World Conference on Disaster Reduction in Kobe, Japan in January 2005. *HFA* laid out strategic goals, priorities and key activities for DRR. Priority 3 is to 'use knowledge, innovation and education to build a culture of safety at all levels'. An indicator of achievement was to be the 'inclusion of disaster reduction knowledge in relevant sections of school curricula at all levels'.²

Save the Children's response to the need for DRR curriculum development in Vanuatu has been effected through its co-leadership, alongside the Ministry of Education and UNICEF, of the Ministry's Education in Emergency Cluster³. An ongoing activity of the Cluster, as laid down in 2011, and for which Save the Children has assumed a lead role, involves consulting with the Curriculum

² UNISDR. (2005). Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. Geneva: UNISDR.

 ¹ Esau, M.J. (2008). Final Report: Education on Natural Disaster Preparedness for Sustainable Development. Port Vila: Republic of Vanuatu National Disaster Management Office. 4-10; Government of the Republic of Vanuatu. (2007). Disaster Risk Reduction and Disaster Management National Action Plan (2006-2016). Suva (Fiji): Pacific Islands Applied Geoscience Commission. 3, 9-10.
 ² UNISDR. (2005). Hyogo Framework for Action (HFA) 2005-2015: Building the

³ Other stakeholders in the Cluster include the Peace Corps, CARE International, and the National Disaster Management Office

Development Unit of the Ministry towards the development of an education in emergency curriculum and for the integration of DRR into formal curriculum⁴.

The commitment to curriculum integration of DRR provided the springboard for two dovetailed Save the Children consultancies to be undertaken in the early months of 2012 both preparing the way for a program 'to promote a replicable education model which will improve access to quality Disaster Risk Reduction (DRR) education, ensuring children and families are better prepared to respond to disasters¹⁵. The first consultancy, of which this is the report, concerns establishing a baseline understanding of the state of the art of disaster risk reduction education in Vanuatu⁶. The second, following on from the first, involves testing the model emerging from the baseline study through the design and writing of curriculum materials and accompanying teacher support materials in preparation for their being piloted in identified schools⁷.

The terms of reference for the baseline study identify the following objectives:

- Support the Ministry of Education and the National Disaster Management Office to assess the current strengths, needs and gaps in primary school DRR & CCA education
- Establish an understanding of existing knowledge, practices and issues for DRR education of primary school students and teachers
- Develop recommendations to guide development of a DRR curriculum pilot (approach and entry point).⁸

⁴ Republic of Vanuatu Ministry of Education. (2011). *Memorandum of Understanding: Education Cluster.* Port Vila: MOE. 15, 18.

⁵ http://unjobs.org/vacancies/1328059334301

⁶ http://unjobs.org/vacancies/1328059334301

⁷ http://www.preventionweb.net/english/professional/jobs/v.php?id=24933

⁸ http://unjobs.org/vacancies/1328059334301

The methodology employed for this baseline study has been one of deskbased meta-research of available documentation coupled with empirical research conducted on the ground in Vanuatu using questionnaires and focus group and one-on-one interviews.

Prior to one of the consultancy team (Fumiyo Kagawa) traveling to Vanuatu, Save the Children furnished the researchers with electronic and/or hard copies of some key documentation. Researchers also gathered relevant documents via the Internet. A close reading of the documentation enabled the researchers to draw up student and teacher questionnaires as well as semi-structured focus group interview schedules for students, teachers and other key stakeholders. For the student questionnaires (for grades 1-3 and 4-6), see *Appendix 1*. For the teacher questionnaire, see *Appendix 2*. The semi-structured interview schedules for students, teachers and other stakeholders form *Appendix 3*. The data collection instruments were forwarded to Save the Children ahead of the consultancy visit to enable the questionnaires to be processed, duplicated and, for francophone schools, translated into French.

Empirical research was conducted between 21 March and 3 April 2012. All 10 schools chosen as pilots for the curriculum development project that was planned to follow on from the baseline study were visited for research purposes during the period. They include two francophone schools. All the schools are located on the island of Efate and outside the capital, Port Vila. The decision to engage exclusively with rural schools was a recommendation of the Shefa Provincial Education Office. The recommendation was based on three considerations: first, Port Vila schools tend to be overly used for research and development initiatives; second, rural schools on Efate tend to be more representative of schools to be found on the other islands of Vanuatu; third, the chosen schools are more vulnerable to natural hazards. The names and locations of the 10 schools are given in the map below (*Figure 1*). Profiles of the 10 schools are available in *Appendix 4*.

The researcher's interactions with students and teachers were aided throughout by the Save the Children Emergency in Education Manager, a ni-Vanuatu person of rich teaching experience and deep understanding of the Vanuatu context and culture and of the institutional culture of Vanuatu schools. He moved easily between English and Bislama as the occasion demanded, francophone speakers using the latter. Also accompanying visits to schools and assisting in data gathering was the Save the Children Humanitarian Programme Manager for Vanuatu, and, on two occasions, the Deputy Principal Education Officer, Shefa Provincial Education Office.



Figure 1. Names and Locations of 10 Pilot Schools

At 4 schools both grade 1-3 and grade 4-6 questionnaires were administered; at 1 school only the former was administered; at 3 schools only the latter was administered. No questionnaire survey was conducted at the two Francophone schools. Altogether, 221 student questionnaires were completed (85 grade 1-3 questionnaires and 136 grade 4-6 questionnaires). For a detailed breakdown of student questionnaire returns, go to *Appendix 5*. Questionnaire completion took place in whole-class settings supervised by one of the Save the Children officers or by the class teacher, guidance being offered where questions were not understood or where students needed help in recording their responses. Approximately 30 minutes were allocated for classes to complete the questionnaire.

Student focus group interviews were held at all ten schools. 4 focus groups involved grade 1-3 students; 9 involved grade 4-6 students. For a detailed breakdown of the student focus group participation, go to *Appendix 6*. Student focus groups lasted approximately 30 minutes and were, with permission, recorded. The researcher wrote interview notes throughout.

The teacher questionnaire was administered at 8 English-speaking schools, completed questionnaires being collected some days subsequent to the school visit. Altogether 50 teacher questionnaires were distributed while 42 completed questionnaires were received, a return rate of 84%. For a breakdown of teacher questionnaire survey, go to *Appendix 7*. 6 focus group interviews for teachers were conducted, each lasting approximately 60 minutes. Each focus group was, with permission, recorded. Again, interview

notes were written throughout. A breakdown of teacher focus group participation forms *Appendix 8*.

Other recorded and noted semi-structured focus group interviews were held with: Members of the Education in Emergency cluster (time being set aside at the 28 March cluster meeting); members of the National Disaster Management Office (NDMO); curriculum writers at the Curriculum Development Unit (CDU) of the Ministry of Education. See *Appendix 3* for the interview schedule used in each case.

Individual semi-structured interviews were conducted with the Principal Education Officer for Curriculum, Ministry of Education and the Principal, Vanuatu Institute of Teacher Education (VITE). Again, recordings were made with permission and notes taken. See *Appendix 3* for the interview schedule used for the two events.

The Vanuatu-based researcher undertook counts of responses to items in the questionnaire permitting of quantitative analysis and organized responses to open-ended questions according to themes emerging from successive rereads of the data. With respect to focus group and individual semi-structured interviews, selective transcriptions of recorded data were interwoven with interview notes. All data thus emerging from the questionnaires and interviews were shared with the desk-based co-researcher and subjected to co-analysis.

During the period of empirical research, the country-based researcher also collected documentation on the current Vanuatu primary curriculum. The range of documents collected⁹ included: the unified primary curriculum document¹⁰; teachers' handbooks, providing a general framework for particular subjects, grade 1-6; teachers' guides laying out the content, teaching and assessment strategies and material in support of the content of student books for each grade level; teachers' resource books offering reference and background material to further inform teachers; student's books. No single complete and accessible archive of documentation was found, the researcher drawing upon the collection of curriculum documents held at the Shefa Provincial Education Office and at the library of the Vanuatu Institute for Teacher Education. Missing items were tracked down through the Ministry of Education. Complete copies of the most relevant documents were forwarded to the desk researcher; in the case of documents of only partial relevance summaries and/or verbatim selections were forwarded.

A mapping exercise was then jointly conducted by the researchers using present curriculum documentation to identify *direct* or *literal* windows of opportunity for disaster risk reduction in the curriculum (i.e. if the study of volcanoes and earthquakes was found in a subject curriculum, that presented a clear and direct expression or opportunity for DRR/CCE learning) as well as

⁹ The research focused upon documents written in English.

¹⁰ Republic of Vanuatu Ministry of Education. (1997). *Unified Primary Curriculum: An Introduction and Overview.* Port Vila: MOE. 32pp.

indirect or *holistic* windows of opportunity (i.e. opportunities for DRR/CCE not necessarily grounded in manifest hazard-related topics in a syllabus but in the intrinsic potential of the subject itself; for example, using creative arts to express hazard concerns).

The primary curriculum currently being followed by Vanuatu schools dates from 1997 and is to be replaced in stages between 2013 and 2015. An obstacle for the researchers has been that, while the vision, values, guiding principles, paramount outcomes, cross-curriculum components and curriculum standards are in the public domain with the 2010 publication of the new *National Curriculum Statement*¹¹, syllabus details for the new curriculum are not available. The curriculum mapping exercise for the new curriculum has necessarily had to be undertaken within the aspirations and broad lines set down in the *Statement*. The above-mentioned interviews with officers of the curriculum arm of the Ministry of Education were most helpful in this regard.

Following analysis of the empirical research and review of documents, the sections of this report were written and recommendations for curriculum areas and grade levels for the dovetailed Save the Children pilot curriculum project drawn up. Some general recommendations were also drawn up. (For the recommendations, see section 9).

¹¹ Republic of Vanuatu Ministry of Education. (2010). *Vanuatu National Curriculum Statement: Working Together for a Better Future*. Port Vila: MOE. 75pp.

Section 3: Disaster Risk Reduction in the Vanuatu Primary Curriculum

As intimated above, the Vanuatu national curriculum is currently in transition with the 1997 curriculum to be replaced over three school years. The new kindergarten and grades 1-3 and 11-13 curriculum are to be implemented in January 2013, the new grades 4-6 curriculum in January 2014 and the new grades 7-10 curriculum in January 2015. Given the transitional nature of the curriculum, this section maps and analyzes present curriculum opportunities for disaster risk reduction and climate change education before going on to investigate opportunities suggested by the *National Curriculum Statement* in its conceptual framing of the new curriculum.

3.1. DRR Windows Opportunities in the Current Vanuatu National Curriculum

Table 1 enumerates Direct and Partially Developed Windows of Opportunity for DRR Curriculum while Table 2 lays out Direct but Unused Windows of Opportunity for DRR Curriculum. In each case a word of explanation on the precise formulations used in the table titles is necessary.

In Table 1 are listed hazard- and disaster-related themes and topics to be found in the present Vanuatu national curriculum and for which learning support materials are to a greater or lesser extent available. For instance, in the 'Our Environment' section of General Studies at grade 5 there is a unit on 'The earth around us'. A perusal of support materials reveals that students are led to explore scientific explanations of the causes of hazards (e.g. tropical storms, El Nino) and to learn of their impacts. In addition, there is some guidance on staying safe when a cyclone strikes. But what is offered falls short of fully-fledged disaster risk reduction education. As the Vanuatu Disaster Risk Reduction and Disaster Management National Action Plan 2006-2016 makes clear 'disaster risk reduction ...includes prevention, mitigation and adaptation^{, 12}. Missing in the unit in guestion is the systematic explanation of the hazard, how to prevent it from morphing into a disaster, how to adapt to it, how to mitigate it, and, finally, how to build individual and community preparedness to meet the hazards under review, as is often the case in current DRR curricula around the world¹³. As we have written elsewhere, addressing the first and the last but not the steps in between 'carries a subliminal agenda in that understanding the science of a hazard alone does not develop the propensity for pro-action while focusing on safety

¹² Government of the Republic of Vanuatu. (2007). *Disaster Risk Reduction and Disaster Management National Action Plan: 2006-2016.* Suva (Fiji): Pacific Islands Applied Geoscience Commission. 14.

¹³ Kagawa, F. & Selby, D. (2012 Forthcoming). UNICEF/UNESCO Mapping of Global DRR Integration into Education Curricula Consultancy: Final Report. Geneva/Paris: UNICEF/UNESCO.

without looking at prevention and mitigation implies the inevitability of what is to happen'¹⁴. The *Vanuatu Education in Emergency Policy and Plan,* in emphasizing the importance of integrating DRR into formal and non-formal curricula, states that '...it is equally important NOT to leap from hazard awareness to response preparedness. Include the critical intermediate steps of risk identification, risk reduction and disaster prevention'.¹⁵

A litmus test of DRR education is to ask whether a well-known basic disaster risk equation is finding expression in the curriculum, i.e.

Disaster Risk = $\frac{\text{Natural Hazard x Vulnerability}}{\text{Capacity of Societal System}^{16}}$

For these reasons, we regard the curriculum windows of opportunity for DRR as enumerated in *Table 1* as 'partially developed'.

Table 1.	Direct and Partially Developed Windows of Opportunities for
DRR Cur	riculum

Gene	eral Stud	dies – Our Enviroi	nment	
Year	Term	Unit	Торіс	Descriptions
1	2	4. The sky and the weather	4B. Clouds and rain	Students learn how to keep a weather chart and to continue a weather chart each day of the year. ¹⁷
1	2	4. The sky and the weather	4C. Wind and storms	The topic objectives include learning that 'very strong winds can cause much damage' and learning to be 'very careful when lightning strikes across the sky'. Extended activities address cyclones and thunderstorms. A brief paragraph mentions the use of 'Tropical Cyclone Precautions' (i.e. what to do when a cyclone alert is issued) for discussion ¹⁸ .

¹⁴ Kagawa, F. & Selby, D. (2012 Forthcoming). UNICEF/UNESCO Mapping of Global DRR Integration into Education Curricula Consultancy: Final Report. Geneva/Paris: UNICEF/UNESCO.

¹⁵ Ministry of Education. (2010). *Vanuatu Education in Emergency Policy and Plan* (*Draft*). 19.

¹⁶ UNESCO/UNEP. (2011). *Climate Change Starter's Guidebook: An Issues Guide* for Education Planners and Practitioners. Paris: UNESCO/UNEP. 63.

¹⁷ Republic of Vanuatu Ministry of Education. (1997). *Our Environment Basic Science Teacher's Guide Year 1*. Port Vila: MOE.37.

¹⁸ Republic of Vanuatu Ministry of Education. (1997). *Our Environment Basic Science Teacher's Guide Year 1*. Port Vila: MOE. 39, 41.

5	1	1 The earth around us	1B. Island, continents and oceans	This unit is linked to Chapter 2 (Movements in the Sea) of <i>The</i> <i>Sea</i> , ¹⁹ which has a section on ocean-atmosphere interactions. It covers causes and effects of the green house effect, tropical storms and El Nino. It also includes the Disaster Management Office's 'cyclone prevention procedures' (i.e. pre- season preparations and actions during blue alert, yellow alert, red alert; actions during and after the cyclone)
5	1	1.The earth around us	1C. Volcanoes and earthquakes	This unit is linked to Chapter 3 (Islands in the Pacific Ocean) of <i>The Sea,</i> ²⁰ which explains types and formation of volcanic islands.
5	2	3. Populations and pollutions	3C. Pollution and waste	This unit is lined to Chapter 8 (Using and Caring for the Sea) of <i>The Sea</i> ²¹ , which addresses pollutions (e.g. sewage, oil leaks or spills from boats, radioactive waste) as well as ways to look after the ocean
6	2	3.Conserving the environment	 3B. Ecology and biodiversity 3C. Personal conservation – reduce, reuse, recycle 	This unit is linked to Chapter 7, (Caring for our trees) of <i>Trees</i> ²² , which highlights the importance of trees for the land. 'When it rains, the top soil is washed away, there is no good ground left to grow things, there are no trees, nothing to protect us from cyclones'. This unit is also linked to the above-mentioned Chapter 8 (Using and Caring for the Sea) of <i>The Sea</i> .

¹⁹ Republic of Vanuatu Ministry of Education. (1997). *The Sea: A Teacher's Book for Years 4, 5 and 6.* Port Vila: MOE.19-26.

²⁰ Republic of Vanuatu Ministry of Education. (1997). *The Sea: A Teacher's Book for* Years 4, 5 and 6. Port Vila: MOE. 27 - 29. ²¹ Republic of Vanuatu Ministry of Education. (1997). *The Sea: A Teacher's Book for*

Years 4, 5 and 6. Port Vila: MOE. 71 - 89. ²² Republic of Vanuatu Ministry of Education. (1997). *Trees: A Teacher's Book for*

Years 4, 5 and 6. Port Vila: MOE. 56.

General Studies -	Our Communities
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Year	Term	Unit		Торіс	Descriptions
3	1	2. Liv islanc	ing on our រ	2B. Other islands in Vanuatu	In one of the extension activities, children work on drawing one of the islands in Vanuatu (Tanna, known for its volcano, is highlighted as one of the islands to be drawn.) ²³
4	1	1.History		1B. Islands of Vanuatu	This unit links to Chapter 2 (The Islands of Vanuatu) in <i>The Story</i> <i>of Our Island</i> ²⁴ which describes the history of the islands and volcanoes. Activity suggestions are (1) talking to older family members about stories of volcanoes and (2) creating and performing a small group play on a scenario of a sudden volcanic eruption near the student village.
Engli	sh Lang	guage			
Year	Term	Unit	Торіс	Descriptions	
1	2	8	The weather Unit objectives include to: 'keep a weather chart a school on the wall', 'talk about keeping safe at different times: when it is very hot; when there is lightning, or it is very windy or very wet, or when the sea is rough', and 'become curious about the weather Why is the sea rough/calm today? ²⁵		include to: 'keep a weather chart at vall', 'talk about keeping safe at when it is very hot; when there is s very windy or very wet, or when n', and 'become curious about the is the sea rough/calm today?' ²⁵
1	2	9	The sea Unit objectives include to: 'learn about the dange of water and the sea; know what to do if dangerd situations arise', 'know how to cross streams safely' and 'take part in activities to clean the beach'. ²⁶		include to: 'learn about the dangers e sea; know what to do if dangerous , 'know how to cross streams e part in activities to clean the
3	2	8	Volcanoes and earthquakes, their impacts, and 'Earthquakes Rules' (i.e. what to do during the earthquake). ²⁷		es mechanisms of volcanoes and eir impacts, and 'Earthquakes t to do during the earthquake). ²⁷
4	3	12	Cyclones Unit objectives are to: 'gather accounts of persona experiences with cyclones', 'know the warning		

 ²³ Ministry of Education. (1997). *Our Communities Social Science Teacher's Guide* Year 3. Port Vila: MOE. 40.
 ²⁴ Ministry of Education. (1997). *The Story of Our Island Year 4*. Port Vila: MOE. 27 -

 <sup>35.
 &</sup>lt;sup>25</sup> Department of Education. (undated). *English Language Year 1 Teacher's Guide*.
 Port Vila: Department of Education. 79.

²⁶ *Ibid.* 87.

²⁷ Curriculum Development Centre. (1997). *English Language Year 3 Pupil's Book*. Port Vila: Department of Education. 49 - 53.

				system and the safe areas in their district', 'write and display rules to follow if a cyclone approaches their village', 'explain how cyclones develop, how they move, and how weather forecasters monitor the cyclone,' 'know the damage that a cyclone can bring to their area, what the dangers are, and what help can be obtained', 'become aware of how people receive injuries during cyclones and what should be done to lessen the chance of loss of life' and 'make a safety plan for their families, setting out what should be done if a cyclone alert is given for their area.' ²⁸
5	1	2	Giant wave	Unit objectives are: 'know the signs of an approaching tsunami; know what to do if a tsunami warning is received in the village', 'know where it is safe to go if a tsunami warning is received, what to do, and how to help others', 'know the dangers associated with a tsunami', 'understand and respect the power of the sea', 'develop feelings for the tragedies that people have endured as a result of natural disasters, such as earthquakes, floods, cyclones and tsunami', 'Marvel at the courage that people show during natural disasters', 'know the role of medical teams, rescue teams, and the mobile in times of disaster, know how local and overseas aid can help the situation', 'appreciate the importance of faith in times of tragedy; know how people try to cope with tragedy in their lives ; know how people can go about facing the future.'
5	1	3	Rescue	Vanuatu sometimes requires international assistance to the areas that have badly suffered from cyclone damage. Unit objectives include to: 'know what to do in times of emergency so that children are able to ask for help appropriately, organize help efficiently, when asked to do so, and assist in rescue efforts in age-appropriate ways' and 'know how to keep themselves safe in situations that are potentially dangerous, so that they do not create a situation where they have to be rescued', and 'be able to imagine what it is like to be in the position of needing help, or in the position of giving comfort to others.' ³⁰

 ²⁸ Curriculum Development Centre. (1997). English Language Year 4 Teacher's Book. Port Vila: Department of Education. 67.
 ²⁹ Curriculum Development Centre. (1997). English Language Year 5 Teacher's Book. Port Vila: Department of Education. 33.
 ³⁰ Curriculum Development Centre. (1997). English Language Year 5 Teacher's Book. Port Vila: Department of Education 43.

5	2	7	Bush fires	The unit objectives include to: 'know how bush fires begin; what dangers they bring to animals and people', 'know how to survive in a bush fire if trapped by one', 'know how bush fires are controlled should they break out and threaten their area' and 'know the factors that may increase the size and destructiveness of a bush fire' ³¹
6	3	12	Saved!	An exercise asks student to tell a story pretending that s/he is caught by a flood, a cyclone, an earthquake or in an accident. ³²

In Table 2 below we enumerate direct windows of opportunity for DRR curriculum that do not appear to have been availed of by curriculum developers and writers. While the curriculum units are DRR relevant, there is no mention of or links made to hazard- and disaster-related themes in the associated learning materials.

Gene	General Studies – Our Environment				
Year	Term	Unit	Торіс		
3	1	1.Changes on the earth's	1D. Erosion and soil formation		
	-	surface			
4	3	4.Resourcing for living	4B. Water (including the sea)		
5	2	2.Pollutions and	3B. Ecology and interdependence		
		populations			
General Studies – Our Communities					
Year	Term	Unit	Торіс		
1	2	4.Our	4B. Caring for our environment		
		surroundings			
Gene	ral Stuc	lies – Our Needs,	Health		
Year	Term	Unit	Торіс		
3	1	Lesson7.	Prevention of skin infection		
6	2	Lesson 13.	Burns and scalds: First aid		
		Lesson 15.	Fractures: First aid		
English Language					
Year	Term	Unit	Торіс		
3	2	9	First aid		
		13	Pollution		

 ³¹ Curriculum Development Centre. (1997). *English Language Year 5 Teacher's Book*. Port Vila: Department of Education. 83.
 ³² Curriculum Development Centre. (1997). *English Language Year 6 Pupil's Book*.

Port Vila: Department of Education. 162.

Before expanding the discussion, it is important to reaffirm that curricula can also offer *indirect* windows of opportunity for DRR education, i.e. units and topics that are not specifically hazard- or disaster-related but offer potential for embedding disaster risk reduction education. Opportunities of this kind in the Vanuatu national curriculum are too numerous to allow for a comprehensive listing but examples are given below as each subject is discussed

3.1.1. General Studies

In the present curriculum, and prominent in *Figures 2* and *3*, the subject of General Studies, an amalgam primarily of environmental studies and social studies and taught from grade 1 to grade 6, offers the most fertile ground for disaster- and climate change-related curriculum. Its objectives, offering scope for combining community engagement and environmental concern, enjoin, *inter alia*, teaching and learning enabling primary children to:

- Become healthy, informed and contributing members of their families, communities and nation
- Become aware of nature and science as (affecting) their lives
- Understand the factors that go towards maintaining and preserving the environment in which they live
- Understand the concepts of climate and weather.³³

General Studies is principally composed of two strands - 'Our Environment' and 'Our Communities'. The former is allotted a suggested 100 minutes per week of teaching time, the latter 75 minutes per week. Teachers are encouraged to integrate the strands³⁴. 'Our Environment' is richest in direct DRR potential, both partially developed and untapped, but 'Our Communities' carries indirect potential for DRR teaching and learning through topics such as 'Our surroundings' (grade 1), 'The village environment' (grade 2), 'Living on our islands' and 'Working together as citizens' (grade 3), 'Vanuatu and the world' (grades 4 and 5) and 'Civics' (grade 6).

An examination of available teachers' guides for 'Health', 'Nutrition,' and 'Agriculture' under the 'Our Needs' strand of General Studies, allotted one hour per week, reveals that these subject areas have not addressed, nor been used for, DRR. However, each has a rich potential. In Health, topics such as, First aid (grades 3 and 6), 'Body Hygiene' (grade 1), 'How to prepare a rehydration drink' (grade 4) and 'How to help' (grade 6) can be extended to contexts affected by natural hazards³⁵. Examples of indirect DRR curriculum

³³ Republic of Vanuatu Ministry of Education. (1997). *Unified Primary Curriculum: An Introduction and Overview.* Port Vila: MOE. 20.

³⁴ Republic of Vanuatu Ministry of Education. (1997). *Our Environment Basic Science: Teacher's Handbook for Years 1 to 6.* Port Vila: MOE. 6,15.

³⁵ Ministries of Education, Health, Agriculture and UNICEF. (undated). *Health - A Right for All Teacher's Book Year 1*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF (undated). *Health - A Right for All Teacher's Book Year 3*.

opportunities in Nutrition include: 'Our healthy island foods', 'Using our island fruits', 'Our island vegetables' (grade3), 'Food patterns in Vanuatu' (grade 4) and 'Clean food preparation' (grade 5)³⁶. In Agriculture, the following topics are potential carriers of DRR curriculum: 'Plant care and requirements' (grade 1), 'School garden: visit' (grade 2), 'Sawing seasons' and 'Harvesting seasons' (grade 3), 'Food production' (grade 4), 'The vegetable garden' (grades 5 and 6)³⁷. Teachers, in their questionnaire responses, have themselves identified the DRR potential in those subject areas (see *Table 4*).

Interestingly, the General Studies teacher handbooks encourage teachers to integrate General Studies teaching with their teaching of Language, Mathematics, Arts and Physical Education. 'The topics in the programme can become the focus for many language exercises and teachers should encourage children to express their questions, opinions and ideas at all times. Similarly, the topics provide many opportunities for mathematical concepts to be reinforced and practiced. ...Teachers should also look for integration with other subjects, such as the Arts and Physical Education. ...[A] strict "discipline" approach is not seen as necessary' ³⁸. In the current General Studies curriculum, then, there is both latitude and encouragement to develop interdisciplinary connects, a green light of real potential for DRR across the curriculum.

3.1.2. Language

As *Tables 1* and 2 demonstrate, language learning is a potentially significant direct and indirect carrier of DRR themes and topics. Across the Vanuatu primary Language curriculum teachers are able to use a number of stories and texts touching on hazards, disasters and climate. Also, as teachers were quick to point out in focus group interview, they are free to pick up and use other stories on such themes from the restricted stock in their school libraries.

Port Vila: MOE. Ministries of Education, Health, Agriculture and UNICEF. (undated). Health - A Right for All Teacher's Book Year 4. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF (undated). Health - A Right for All Teacher's Book Year 6. Port Vila: MOE.

 ³⁶ Ministries of Education, Health, Agriculture and UNICEF. (undated). *Nutrition. Finding Out about Our Island Food Teacher's Book Year 3*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Nutrition. Finding Out about Our Island Food Teacher's Book Year 4*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Nutrition. Finding Out about Our Island Food Teacher's Book Year 5*. Port Vila: MOE.
 ³⁷ Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 1*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 1*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 2*. Port Vila: MOE.; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 3*. Port Vila: MO.; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 4*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 4*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 4*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 4*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 4*. Port Vila: MOE; Ministries of Education, Health, Agriculture and UNICEF. (undated). *Learning to Cultivate Our Land Teacher's Book Year 5*.

³⁸ Ibid. 6. Republic of Vanuatu Ministry of Education. (1997). *Our Communities Social Science: Teacher's Handbook for Years 1 to 6.* Port Vila: MOE. 6.

The specific objectives of the Language curriculum concern, *inter alia*, listening, learning how to obtain and express information, expressing feelings, needs and opinions in writing and speech, using information critically to solve problems, and responding to stories and other stimulus material³⁹. Work on listening, speaking, reading and writing can, at a number of points focus on hazard- and disaster-related themes and topics, something we found a number of creative teachers reporting on doing to good effect.

3.1.3. Mathematics

Focus group teachers affirmed that there are currently no hazard- or disasterrelated topics in the Vanuatu Mathematics primary school curriculum. Indeed, although the syllabus recommends the teacher to have students practice new mathematical ideas 'through concrete situations of everyday life'⁴⁰, the sixtyeight page syllabus is remarkably devoid of real life examples around which students might practice mathematical operations such as adding, subtracting, measuring, working out percentages, working with decimals, working out ratios and constructing graphs. In achieving cross-curricular reinforcement of DRR learning the indirect potential of Mathematics could be exploited. Simple mathematical operations could be undertaken for home and school safety projects, for instance, while students in the senior primary years could work with disaster-related data and statistics. Promisingly, the Curriculum Development Unit writing team preparing the new curriculum is thinking in this way, citing in focus group the use of graphs in Mathematics to demonstrate frequency of volcanoes on Vanuatu islands.

3.1.4. Arts

Similarly, the primary Arts curriculum, covering both visual and performing arts, does not specify particular topics but, in its breadth, offers rich windows of opportunity, intrinsic to the nature of the subject, for carrying DRR curriculum. Objectives include: developing ability and skills in two-dimensional and three-dimensional visual art; thinking imaginatively to raise questions, solve problems, experiment, discover and invent; developing dance and musical skills; communicating ideas and feelings through a variety of drama expressions. Through the visual arts strand of the curriculum students are encouraged to use a variety of media to make puppets, weave and make murals, collages and posters, all of which activities have latent DRR potential. Similarly, the Performing Arts strand calls on students to develop mime sequences, develop and tell group stories, use dance, use puppets in performance, develop role-plays and enact their own stories, any of which can be given a DRR slant⁴¹. For instance, older children could present puppet shows on hazards to younger children or students could

³⁹ Republic of Vanuatu Ministry of Education. (1997). *Unified Primary Curriculum: An Introduction and Overview.* Port Vila: MOE. 14, 15.

⁴⁰ Republic of Vanuatu Ministry of Education. (1997). *Mathematics Syllabus for the Primary School.* Port Vila: MOE. 5.

⁴¹ Republic of Vanuatu Ministry of Education. (1997). *Unified Primary Curriculum: An Introduction and Overview.* Port Vila: MOE. 22-25.

organize poster campaigns or street theatre in the community on building village disaster resilience. Given that classroom teacher in Vanuatu is left to determine their own path through the Arts curriculum, there is considerable scope for DRR experimentation here.

3.1.5. Teachers' Perceptions of DRR Windows of Opportunity in the Current Curriculum

In focus group interviews teachers were asked for their perceptions as to where disaster-related topics could be found in the Vanuatu curriculum. General Studies was identified in all six focus groups with sea-related topics in grades 4, 5 and 6 receiving the most frequent mention (in five focus groups). There was also agreement across all focus groups that textbook stories used in language teaching provided a rich vein of opportunity for considering disasters in class. Mention was made of: grades 1-13 reading books in French that have topics on cyclones and other disasters; a reading book for grade 3 English on volcanoes and cyclones, a topic on earthquakes, including safety guidance, in The Stories of Our Islands, a grade 4 English textbook; real life stories on tsunami in grades 5 and 6 English textbooks; French reading books in grades 4-6 on the sea with topics on cyclones and volcanoes. There was general agreement amongst the focus group teachers that consideration of hazards and disasters was weighted towards grades 4 to 6 with little coverage in evidence in grades 1 and 2. The only example of the presence of climate change education in the curriculum was the mention by teachers at English-speaking schools of the greenhouse effect being discussed at grade six. Teachers at the francophone Pango School declared that 'climate change is not in the curriculum'. Some teachers also pointed out that when a hazard-related topic appeared twice at the same grade level, for instance the topic of 'sea' in both grade 6 English and General Studies, the learning is left disconnected (this, in spite of the MOE exhortation to effect interdisciplinary links).

Full details of teacher questionnaire returns as to where in the current primary curriculum specific hazards are taught are given in *Table 3.*

Hazard	Subject (grade)	Frequency
Cyclone	English (1)	1
,	English (4)	6
	General Studies (1)	2
	General Studies (2)	2
	General Studies (4)	6
	General Studies (5)	5
	General Studies (6)	4
Fire	English (4)	2
	English (5)	1
	General Studies (2)	2
	General Studies (5)	2
	General Studies (6)	1
Flooding	English (3)	1
	English (5)	1
Drought	General Studies (1)	1
	General Studies (2)	1
	General Studies (6)	1
Earthquakes	English (2)	2
	English (3)	5
	English (4)	3
	General Studies (2)	1
	General Studies (5)	2
	General Studies (6)	2
Landslides	General Studies (2)	1
	General Studies (6)	2
Tsunami	English (1)	1
	English (3)	1
	English (4)	1
	English 5	8
	General Studies (4)	5
	General Studies (6)	1
Volcanoes	English (3)	7
	English (4)	2
	General Studies (4)	3
	General Studies (5)	1
	General Studies (6)	2

 Table 3: Addressing Hazards in the Current Curriculum

In the teacher questionnaire teachers were also asked to list the five subjects they felt to be the most useful carrier subjects for disaster risk reduction education, placing their choice in descending order from *most useful* (1) to *least useful* (5). The returns, summarized in *Table 4*, clearly show that General Studies, in particular the Our Environment strand, and Language are regarded as the most fertile areas for DRR in the perspective of teachers.

Table 4: Teachers' Views on Most Useful Carrier Subjects for DRR

Priorities	Subject [Frequency of Response]
1	Language [5]; General Studies-Our Environment [7]; General Studies – Our Communities [4]; General Studies –Health [4]
2	Language [7]; General Studies-Our Environment [7]; General Studies – Our Communities [6]; General Studies – Nutrition [3]
3	General Studies – Agriculture [3]; General Studies-Our Environment [3]; General Studies- History [3]
4	General Studies – Agriculture [4]; General Studies – Our Communities [4]; General Studies – Nutrition [2]; Language [2]
5	Mathematics [5]; Language [4]; General Studies –Health [2]

3.2. DRR Windows Opportunities in New National Curriculum

The Vanuatu National Curriculum Statement heralding and conceptualizing the new national curriculum soon to be introduced is regarded as an 'enabling

framework' by the Principal Education Officer of the Ministry of Education's Curriculum Development Unit. The *Statement*, he said, 'was designed in order to capture all the aspects of social things which have impacts on the lives of people'. Pressed in interview as to whether that included disaster risk reduction, the answer was a categorical 'yes'.

Much of the interview was given over to discussing the ten 'essential cross-curricular

BOX 1: Ten Essential Cross-Curricular Components

- Careers and work
- Citizenship and governance
- Communication signs and symbols
- Community values
- Culture and spiritual understanding
- Environment and sustainable production
- Healthy living
- Literacy education
- Numeracy education
- Safety.
 (The Vanuatu National Curriculum Statement, 38)

components' outlined in the *Statement* (see *Box 1*) and defined as 'matters that connect with all subjects, linking learning activities in school with life outside of school' ⁴². The Principal Education Officer recognized great potential for integrating DRR within the Environment and Sustainable Production and Safety components but also saw considerable potential for integrating elements of DRR within the Community Values, Healthy Living,

⁴² Ministry of Education Republic of Vanuatu. (2010). *Vanuatu National Curriculum Statement: Working Together for a Better Future.* Port Vila: MOE. 38.

Communication – Signs and Symbols, and Literacy Education components.

A perusal of the cross-curricular components chapter of the *Statement* reveals only one direct reference to disaster risk reduction. That appears under the Safety component (the sub-title for which is 'family, community, school work') and merits quoting in full:

We live where earthquakes, tsunamis, volcanic activity, cyclones and mudslides threaten our lives and fires in our homes and workplaces can threaten our safety. Children and students need to know the signs of these natural phenomena and know the appropriate action to take. They should be assertive and ensure that others in the community do not ignore warnings that threaten their lives and homes. In the event of these phenomena, they need to know how to behave safely, contribute to their survival and that of others, and keep safe^{'43}.

It is nonetheless clear that other 'essential cross-curricular components' can be important carriers of DRR. The description of the Environment and Sustainable Production component stresses the importance of children being aware of the importance of a healthy environment:

Every child and student needs to know how human interventions contribute to such occurrences as climate change, soil erosion, or the death of reefs which adversely affect the environment and how those changes impact on human lives. We need to ensure that: we harvest our land and sea in sustainable ways; promote awareness of the fragility of the physical environment and how human activity affects it; young people appreciate that the land and sea are a finite resource⁴⁴.

Very importantly, the component is set within a framework of environmental education for sustainability designed to 'develop knowledge, critical thinking skills, and appropriate values to participate in decision making about environmental and developmental issues'. A 'whole school approach' is recommended and Vanuatu schools are enjoined to develop a shared school vision, a mission statement and clear learning outcomes⁴⁵.

DRR can also enjoy what we have elsewhere called 'symbiosis'⁴⁶ with other cross-curricular components, as recognized by the Principal Education Officer. The Community Values cross-curricular component is concerned with reinforcing the ethics and personal and social values that make for good community by enabling students to 'find appropriate approaches to taking action about issues and concerns and to their behavior in everyday life'⁴⁷.

⁴³ Ibid. 48.

⁴⁴ Ibid. 44

⁴⁵ Ibid. 45.

⁴⁶ Kagawa, F. & Selby, D. (2012 Forthcoming). UNICEF/UNESCO Mapping of Global DRR Integration into Education Curricula Consultancy: Final Report. Geneva/Paris: UNICEF/UNESCO.

⁴⁷ Ministry of Education Republic of Vanuatu. (2010). *Vanuatu National Curriculum Statement: Working Together for a Better Future*. Port Vila: MOE. 42-3.

The Healthy Living component focuses on pre-emptive behaviors making for a healthy individual and community lifestyle. The Citizenship and Governance component emphases pro-social behaviors and showing students 'how to work together to take responsible action in their communities about matters of concern such as dealing with pollution and the proper disposal of rubbish, keeping the village and school safe and free from harassment, making decisions for the betterment of all'⁴⁸. The Communication - Signs and Symbols component offers fertile soil for re-visiting of indigenous knowledge of signs and signals from nature that a climatological or seismic hazard is imminent⁴⁹.

The Principal Officer at the Curriculum Development Unit was at pains to emphasize that cross-curriculum components were to apply to all subject areas and that the brief of the curriculum writing team at the Unit is to 'address all ten cross-cutting components in all subject areas at all grade levels', an intention confirmed by the ten curriculum writers in focus group interview. There were some signals, however, that, this holistic intention notwithstanding, there might, in practice, be some weighting of particular cross-curricular elements towards certain subjects. For instance, curriculum writers saw potential for disaster-related topics across the curriculum while expecting them to be 'mostly addressed in social science'.

The National Curriculum Statement also lays out six 'paramount outcomes', defining them as the 'most significant educational outcomes in the reformed curriculum'. The paramount outcomes (see *Figure 2*) are: Being Independent; Planning and Managing; Caring, Sharing and Participating; Solving Problems; Using Language and Symbols; Valuing Culture and Religion. The Principal Officer saw each outcome as offering further curriculum access to DRR. Clearly, DRR curriculum development on Vanuatu is going to achieve greater acceptance if learning and teaching materials align with, and are clearly seen to align with, the paramount outcomes.



Figure 2. Paramount Outcomes⁵⁰

⁴⁸ Ibid. 40-1.

⁴⁹ Ibid. 41-2.

⁵⁰ The Vanuatu National Curriculum Statement, 31.

The new curriculum is being organized according to five learning areas (or 'families of subjects'): Personal Development (health, wellbeing, motor skills and physical education): Culture and Community (social science, arts and crafts and enterprise education); Language and Communication (Bislama, English and French); Mathematics and Science (including Agriculture); Spiritual and Character Development (Civics, Citizenship and Religious Education).

A critical task, then, for those seeking to embed disaster risk reduction in the reformed Vanuatu curriculum is to develop curriculum that is in symbiosis with the cross-curriculum components while helping realize identified paramount outcomes within and across the new families of subjects. Recognizing this, the Principal Officer of the Curriculum Development Unit saw the need for some mutual 'brainstorming exercises to identify the most appropriate windows of opportunity for DRR within the Vanuatu National Curriculum Statement. A further potentially productive task concerns life skills. In the Statement there are references to 'practical life skills' and 'basic life skills' but nowhere in the document are the skills in question systematically elaborated. Nor is their interface with or relationship to the cross-curriculum components and paramount outcomes explored. A potentially influential exercise would be for DRR proponents to contribute to a mapping of life skills, including and especially those life skills appertaining to community resilience-building. [It merits mention that successful integration of DRR into national curriculum has happened in some countries - Myanmar, Lesotho, Malawi - through a life skills approach⁵¹.]

The Vanuatu Education Sector Strategy 2007-2016 (VESS) places great emphasis on 'decentralization to the provinces and school communities' 52. 'Key tasks and resources will be progressively decentralized from the Department of Education in Vila to the six Provincial Education Offices' in that 'currently, the education sector is too centralized and typified by an urban bias.⁵³ What is never quite clear in the document is whether the intention to decentralize also applies to any extent to curriculum. This is a significant issue from a DRR perspective in that Vanuatu is a country in which natural hazards present themselves in different combinations and with differing degrees of severity on different islands⁵⁴. The question then arises of whether an element of locally developed curriculum might be relevant to a country with a previously highly centralized curriculum. We found a wide range of opinions on this issue. The Principal of the Curriculum Development Unit declared an interest in exploring the idea as 'we do not have the same disasters....Some islands have volcanoes: some islands are in shore areas'.

⁵¹ Kagawa, F. & Selby, D. (2012 Forthcoming). UNICEF/UNESCO Mapping of Global DRR Integration into Education Curricula Consultancy: Final Report. Geneva/Paris: UNICEF/UNESCO.

⁵² Ministry of Education Republic of Vanuatu. (2006). Vanuatu Education Sector *Strategy 2007-2016.* Port Vila: MOE. 3. ⁵³ Ibid. 8, 18.

⁵⁴ Government of the Republic of Vanuatu. (2007). *Disaster Risk Reduction and* Disaster Management National Action Plan: 2006-2016. Suva (Fiji): Pacific Islands Applied Geoscience Commission.

The curriculum writers from the Curriculum Development Unit strongly supported the idea in that students should 'learn more about what is around them, the environment around them'. They postulated an approach in the new curriculum whereby learning outcomes would be centralized but learning activities would be localized with teachers drawing on the expertise and insights of the local community. The approach would, however, call for special training for the teachers, something that might become possible under the devolved in-service training approach being developed by the Vanuatu Institute of Teacher Education as discussed in section 5 (p.35). Teachers in focus groups largely welcomed the idea of locally specific DRR teaching and learning activities and materials but saw the realization of the idea as challenging without the availability of special financial and human resources. Some teachers also expressed concerns given that there is significant population mobility between islands and students have in some cases to go to another island with a different set of hazards for their secondary education and vocational opportunities. This spoke to a common DRR content allied with some local DRR learning.

The Ministry of Education is also emphasizing the importance of curriculum that reflects traditional, indigenous culture and knowledge. While recognizing the interdependent nature of global society, the Vanuatu National Curriculum Statement is insistent in its call for a curriculum relevant to Vanuatu, based on traditional culture, knowledge, concepts, values and beliefs⁵⁵. This has significant implications for the integration of DRR in the curriculum in that it will be important to coalesce scientific knowledge with exploration of longstanding ni-Vanuatu ways of reducing risk from natural hazard to families and communities, a point emphasized by staff of the National Disaster Management Office in focus group interview. Teachers, as well as CDU officers participating individual and focus group interviews, for the most part, welcomed the idea of DRR including traditional knowledge in that students were already familiar with, but not necessarily steeped in, indigenous ways and so DRR teaching could, in good child-centered style, start from what children knew and build on prior knowledge. For the teaching of traditional skills and practices, it was felt, the involvement of the community in the learning process would be important.

A cautionary note was struck by teachers in two focus groups who worried that traditional knowledge was unreliable given that circumstances had changed a lot with the onset of climate change, something unknown to ancestors. The Vanuatu Red Cross project, *Together, Becoming Resilient!*⁵⁶, has been path finding in its gathering of indigenous knowledge for disaster risk reduction purposes and offers material that could be translated into learning and teaching material. Another important resource in this regard is likely to be the Women Field Workers of the Women's Culture Program of the Department of Culture who are tasked with 'playing an important role in

⁵⁵ See, for instance, *Vanuatu National Curriculum Statement: Working Together for a* Better Future. Port Vila: MOE. iii, 18, 19, 43, 44.

⁵⁶ Vanuatu Red Cross. (undated). *Together, Becoming Resilient! DIPECHO Project: Traditional Knowledge.* Port Vila: Vanuatu Red Cross.

preparing for disaster and transmitting traditional knowledge of coping strategies to the young'. ⁵⁷ In addition, traditional knowledge and community coping mechanisms in the event of a disaster collected by the Vanuatu Cultural Centre can also be a source of information as 'yet to be transcribed and incorporated into national guidance, policies and tools'.⁵⁸

The term 'disaster risk reduction' was new to both English and French speaking members of the Curriculum Development Unit curriculum writing team. While they evinced considerable eagerness to write hazard- and disaster-related topics into the new curriculum, they felt ill equipped to do so as currently there were no available DRR resources, learning activities and examples of learning materials at CDU to guide their efforts. Endeavors to meet this lacuna will necessarily have to go hand in glove with sustained dialog to build an understanding of disaster risk reduction that ensures that curricula produced apply a holistic lens to disaster that puts adaptation, mitigation, preparedness and resilience building in the frame as much as the science of disasters and safety measures.

⁵⁷ Esau, M.J. (2008). *Final Report: Education on Natural Disaster Preparedness for Sustainable Development.* Port Vila: Republic of Vanuatu National Disaster Management Office. 16.

⁵⁸ Vanuatu National Progress Report on the Implementation of the Hyogo Framework of Action (2009-2011). 9.

Section 4: The Pedagogy of Disaster Risk Reduction in Vanuatu Primary Schools

The child-centered and participatory principles of learning set out in Vanuatu Unified Primary Curriculum of 1997⁵⁹ are reconfirmed, deepened and elaborated in the National Curriculum Statement of 2011 ushering in the new curriculum. 'A child centred constructivist approach is a method of teaching and learning that will be given priority in Vanuatu schools,' the Statement declares, with constructivism being explained as having three ingredients: learning as an active and interactive process; learning taking place in many different social settings; children, students and adults sharing in learning.⁶⁰ Learning under the new curriculum is to be life-relevant and contextualized. Teachers are to call upon members of the local community to bring traditional knowledge to the learning process. Learning is to happen everywhere outdoors in the village, the local environment, the urban setting. 'Schools must ensure community participation in children's learning by taking children into the community to work and talk with its members and participate in community activities'. The learning environment is to be 'supportive, inclusive and productive'.61

Disaster risk reduction education shares a similar pedagogical stance concerned as it is with building understanding in students of the causes, nature and effects of hazards while also fostering a range of dispositions, competencies and skills enabling them to contribute proactively to the prevention and mitigation of disaster. Its goals of bringing blending learning into real life contexts, practicing skills, challenging attitudes and exploring values suggest a pedagogy that is active, interactive, experiential and participatory.⁶²

While occasional examples of constructivist disaster-related teaching and learning were unearthed through the teacher focus groups and questionnaire survey, the overall picture suggests that much of the teaching of hazards and disasters falls short of use of the gamut of active and interactive approaches. *Table 5* and *Figure 3* summarize responses to a question asking for details of methods used for teaching disaster risk reduction topics. The returns reveal that across the respondent teacher group there is preponderant use of the textbook, frequent use of stories and storybooks, fairly frequent use of resource packs and class discussions, but very limited use of out-of-school

⁵⁹ Republic of Vanuatu Ministry of Education. (1997). *Unified Primary Curriculum: An Introduction and Overview.* Port Vila: MOE. 9-10.

 ⁶⁰ Ministry of Education Republic of Vanuatu. (2010). Vanuatu National Curriculum Statement: Working Together for a Better Future. Port Vila: MOE. 18.
 ⁶¹ Ibid. 18-23.

⁶² Kagawa, F. & Selby, D. (2012 Forthcoming). UNICEF/UNESCO Mapping of Global DRR Integration into Education Curricula Consultancy: Final Report. Geneva/Paris: UNICEF/UNESCO.

visits, visitors to class, student involvement with community, role play, drama and games.

	Always	Often	Sometimes	Never	N/A
Textbook	15	9	10	3	5
	(35.7%)	(21.4%)	(23.8%)	(7.1%)	(11.9%)
Resource Packs	4	10	9	9	10
	(9.5%)	(23.8%)	(21.4%)	(21.4%)	(23.8%)
Stories/Story	8	8	17	1	8
Books	(19%)	(19%)	(40.5%)	(2.4%)	(19%)
Class Discussions	12	6	11	2	11
	(28.6%)	(14.3%)	(26.2%)	(4.8%)	(26.1%)
Out-of-School	0	4	12	15	11
Visits	(0%)	(9.5%)	(28.6%)	(35.7%)	(26.1%)
Visitors to Class	0	1	18	10	13
	(0%)	(2.4%)	(42.9%)	(23.8%)	(30.9%)
Community	1	2	16	14	9
Involvement	(2.4%)	(4.8%)	(38.1%)	(33.3%)	(21.4%)
Role	3	4	16	8	11
Play/Drama/Games	(7.1%)	(9.5%)	(38.1%)	(19%)	(26.2%)

Table 5: Methods Employed to Teach Disaster Risk Reduction Topics

Response frequencies (%)

Some of the explanation of the fairly unadventurous range of teaching methods being employed appears to lie with what teachers think are largely unsatisfactory learning materials available to them for treating hazard- and disaster-related topics. 19 respondents to the questionnaire (45%) found the materials 'insufficient for purpose' with only 8 (19%) finding them 'sufficient for purpose'. 14 (33%) found them to be 'of poor quality'; 10 (23%) found them to be 'of mediocre quality'; only 4 (9.5%) held them to be 'of good quality'. The materials fared better in terms of 'relevance to local experience' (19 or 45% agreeing), being 'well grounded in Vanuatu culture' (14 or 33% agreeing) and 'appealing to students' (13 or 30% agreeing).

The opposite side of the same coin is the fairly widely expressed aspiration among teachers to be furnished with a DRR teacher's guide, to be trained in using the guidebook and accompanying class activity books, to have more resources, and especially visual resources (see p.32), to use at all grade levels, and to be offered general training in facilitating DRR learning methods and activities (see p.34). During the focus group interviews teachers pointed out the importance of making those materials available for teachers in remote villages in other islands.

Figure 3: Methods Employed to Teach Disaster Risk Reduction Topics (Graphical Representation)



Some teachers reported upon their creatively capitalizing upon the potential of some hazard- and disaster-related topics to widen and enliven their treatment; others spoke of how they had exploited indirect windows of opportunity for DRR. At Ekipe School a then grade 6 teacher had organized a field trip to the Vanuatu Meteorological Office. At Manua School, a teacher had used the grade 4 Papua New Guinea General Studies unit as a springboard for studying tsunami. A grade 3 teacher from the same school described her use of English language lessons to ensure that students were regularly discussing hazard-related topics including accidents, cyclones, floods and volcanic eruptions. Similarly at Pango School, a grade 1 to 3 multi-grade was addressing what to do in case of hazard striking using French language lessons as a platform but teaching from their own resources.

Other examples of innovative active, interactive and experiential learning described in focus group sessions and in questionnaire returns included the following:

- Collecting information from the Meteorological Office and having students work together on projects using the materials (Teacher questionnaire survey)
- 'Picture talk'- collecting pictures of disasters and having students talk about them (Teacher questionnaire survey)
- Having students listen to people who have experienced a disaster (Teacher questionnaire survey)

- Having student observe the sea level each week (by marking it with sticks) and linking their observation findings to the topics on climate change and management of rubbish (Teacher questionnaire survey)
- Visiting hazard affected areas (Tanoliu school, teacher focus group)
- Having student interview parents regarding earthquakes and tidal waves and report back in the classroom (Tanoliu school, teacher focus group).

Alongside these concrete examples of what teachers had actually done, we received from teacher participants exciting but less than fully-fledged ideas as to what they might do with more support in terms of film, posters, picture sets, real-life stories, drama and role play activities and action learning:

- In their questionnaire surveys, two teachers suggested inviting the Small Bag Group, a famous Vanuatu theater group, to perform theatre on DRR in the school and community, alongside which they would conduct poster awareness raising campaigns.
- During the teacher focus group interview at Pango School, the Principal emphasized the importance of using dramas, rhymes, poetries and songs in line with traditional, oral, ways of communication in Vanuatu.
- During the teacher focus group interview at Eton School, teachers highlighted the potential use of school assemblies and social nights, occasions already in place, for addressing hazard and disaster related matters.
- A number of principals and teachers also welcomed the idea of visitors to the classroom/school talking and interchanging with students about DRR.

The final idea was picked up in the focus group interview with members of the National Disaster Management Office. The NDMO's officer responsible for training and public awareness is available to undertake school visits and, indeed, to host, by appointment, visits by school students to the NDMO offices. The problem is that the task is a large one for a single officer.

Clearly, the upcoming Save the Children pilot and subsequent full-scale curriculum development project should seek to realize the aspirations of teachers by developing learning and teaching approaches and programs, as well as supporting learning resources, that enshrine constructivist pedagogical principles. A parallel and complementary capacity building program for teachers is also essential.

Section 5: Disaster Risk Reduction and the Vanuatu Teacher

Start teaching about disaster reduction now in the classroom (so that) in the future Vanuatu people are more prepared themselves, prepared to meet disasters, and cope with disasters. If we educate the kids now, those kids will pass on their knowledge to new generations to come. We will have a safe Vanuatu, a safe population.

- Principal, Pango School

Very few of the primary teachers participating in this baseline study were familiar with the term 'disaster risk reduction'. Most were unfamiliar with the term's wider connotations, understanding in the main being limited to causes and effects of hazards and consequent safety measures and behaviors. Most teachers did not differentiate between the concept of a 'hazard' and a 'disaster'.

That said, most teachers were strongly of the opinion that hazards and disasters should be systematically addressed within the curriculum so children were prepared. They wanted disaster-related teaching and learning to feature at all grade levels. Of the 42 respondents to the teacher questionnaire, 23 (54.8%) considered disaster risk reduction education as 'hugely important' for Vanuatu schools while 13 (31%) considered it 'very important', a total of 85.9% thus according DRR a high rating of importance⁶³.

'In the past in Vanuatu,' said a teacher at Manua School whose colleagues all concurred that disaster should be taught at each grade level, 'we never experienced tsunamis. We only heard about them. ... It is best to teach about disaster because nowadays disasters are becoming threats to Vanuatu.' 'It will be better if children can spend more time learning about it' said a teacher at Tanoliu School. 'For some children it will be the only time to learn.' 'We should make curriculum on, for example, how to keep safe from getting hit by cyclones and by tsunamis,' said a teacher at Ekipe School. 'Our curriculum should emphasize the importance of how to prevent (disasters).' 'When disaster happens,' said another teacher at Tanoliu School, 'it will affect children from all grade levels, from 1 to 6. At the moment, we learn about disasters from year 3 through year 6, while years 1 and 2 do not know anything about this. So when a disaster strikes they will be mostly affected. So it is important to start from little. One more reason is that if we start now with small ones, then when they grow old, they might have full understanding of what is happening.'

Teachers were also largely in agreement that treatment of hazard and disaster in the current curriculum was insufficient to prepare students to cope

⁶³ Six respondents (14.1%) did not respond to the question.

with threat and reduce risk to themselves and others. In the words of a teacher at Matarisu school, 'the kids are very interested but the [curriculum] content is not enough'.

Reliance on specific subjects to carry disaster-related curriculum was seen by some as problematic given that the agenda of the subject was likely to take precedence over disaster learning. 'In language,' said a Tanoliu School teacher, 'we learn about tidal waves but we do not actually go deep because the main concern is about language, English language. We use the topic of tidal waves to practice English. ... We do not actually go into details about how to keep safe because the emphasis is on language, not on disasters.' For the same reason a teacher at Ekipe School said that the 'spread out' nature of disaster-related teaching should be cohered through the production of a single teacher handbook and supporting classroom materials written from a distinctly DRR perspective. 'That will be easier for students and we can use it in different subjects. ... We set some time aside in our timetable for focusing on disasters.' The same thinking lay behind the suggestion of a teacher at Matarisu school that a small portion of time, increasing in duration through the grade levels (10 minutes in grade 1, 15 minutes in grade 2 and so on), be allocated each week for disaster risk reduction learning. 'Make it more important than a subject,' agreed a teacher from Manua school, 'because this one is very serious especially for our country. This is something we must do as it is a must for life in Vanuatu.'

Contributing to the perceived insufficiency of present treatment of hazards and disasters in the classroom was a paucity of effective classroom resources. Teachers in every focus group interview called for the development and availability of more disaster-related learning resources at all grade levels, resources that would enable them to vivify their teaching. The most frequently heard call was for visual resources (posters, pictures, DVDs, videos). Several teachers recalled difficulties they had encountered in teaching about hazards in the absence of supporting visual materials when the hazard in question was outside the children's own lived experience. Book and resource collections in their school libraries are also very limited. Storybooks, activity books and student workbooks were also mentioned as items that would enhance DRR teaching and learning.

Teachers also identified prevailing assessment methods as a hindrance to effective hazard- and disaster-related teaching and learning. In response to a question asking whether DRR learning was assessed, 13 (31%) of those returning a questionnaire responded 'yes' and 20 (47.6%) answered 'no'.⁶⁴ The most regularly used form of assessment was the written test of knowledge recall. Such a test was seen as tending to exclude the assessment of the skills-oriented and action-oriented learning core to disaster risk reduction education. As one teacher at Tanoliu School succinctly put it: 'Sometimes you can write and write but you do not know what to do'. A teacher at Ekipe school proposed practical assessment through observation of student behaviors (for instance, during an unannounced practice school

⁶⁴ Nine respondents (21.4%) did not respond to the question.

evacuation). Other suggestions from teachers included: using drama and role-play to assess student learning; assessment of hazard-related enquiries and action projects undertaken in the community; oral tests (involving, for instance, assessing oral reporting on out-of-school involvement or assessing contributions to 'question of the week' discussions on chosen topics, some of which could be disaster-specific). These suggestions very much align with the constructivist approach to learning discussed in the previous section (p. 27) and with the call from the Ministry of Education in the *National Curriculum Statement* for more varied and diverse forms of both formative and summative assessment, and for assessment with a much stronger skills orientation⁶⁵.

In focus groups and through their questionnaire returns, teachers identified a range of disaster-related learning outcomes they would like to see addressed within the primary curriculum. They are summarized below:

Knowledge and Understanding Outcomes

- Knowledge of the causes and mechanism of natural hazards
- Ability to identify different types of hazard
- Knowledge of potential impacts of hazards
- Ability to identify and interpret signs and indicators of impending hazard
- Understanding of basic safety rules to be followed when a hazard approaches and also during and after a period of hazard
- Understanding of of how to react to hazard warnings
- Knowledge of safe places to go to in the community and surrounding countryside when hazard threatens
- Knowledge of safe places to build homes
- Knowledge of community hazard and disaster stories
- Understanding of the consequences and impacts of behaviors that harm the environment
- Knowledge of how to prevent, avoid and reduce disasters
- Knowledge of precaution measures
- Knowledge of disaster risk reduction

Skills Outcomes

- Ability to take the necessary practical steps and coping actions when confronted with hazard
- Ability to pass information on to parents, other family members and community members about hazards and disasters
- Ability to apply what is learnt to everyday life

Attitudinal Outcomes

• Attentiveness and watchfulness

⁶⁵ Ministry of Education Republic of Vanuatu. (2010). *Vanuatu National Curriculum Statement: Working Together for a Better Future.* Port Vila: MOE. 26-8.

- Responsibility and care for the environment
- Helpfulness to others

Asked in the teacher questionnaire survey whether they had received DRR training, only one teacher responded in the affirmative. In the questionnaire, teachers were also invited to identify three aspects of DRR teaching they would most like training in. The forty-two respondents offered in all some eighty-one suggestions for professional development. These are itemized in collated form in *Table 6.*

Table 6: DRR Professional De	velopment Requests of Teachers
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Training Wanted	Frequency
Up-to-date scientific and practical knowledge on hazards and disasters	37
Demonstration of, training and practice in, different teaching and learning methods and activities for DRR	12
The availability of and training in how to use a hoped-for new DRR teachers' guide and accompanying class activity books	9
How to produce/find/manage resources	7
What is DRR?	6
Safety rules	4
Follow-up plans (what to do after the course)	2
How to develop and implement a school safety plan	1
Training on safety drills for hazards	1
Practical activities for out of school children	1
Knowledge related to climate change	1

Teachers in all six focus groups showed interest in training in how to develop and implement a school safety plan, their interest having been piqued by a question on school safety. Such interest from teachers aligns with the current development of provincially specific school safety plans. In Shefa province, the policy has already been drafted and all schools in the province are urged to develop their own School Safety Plan. ⁶⁶

Clearly, there is a groundswell of interest among teachers in receiving hazardand disaster-related professional development especially in terms of DRR content and pedagogy but also so as to enable them to make their school a safer place. The call for training in DRR content and methods goes hand in glove with the call throughout the teacher data for up-to-date, attractively presented, stimulating and readily accessible DRR teaching and learning materials.

New developments at the Vanuatu Institute of Teacher Education (VITE) have the potential to bring nearer the realization of teacher professional development needs. Like the Vanuatu national curriculum, VITE is transition

⁶⁶ Shefa Education Office. (March 2012). *Shefa School Safety Plan (Draft).* 6. No specific timelines have been suggested for school safety plan development.

with the phasing out of old programs and the introduction of new harmonized pre-service and in-service programs and program delivery mechanisms.

At pre-service level a three-year program, with a common primary/secondary course in the first year, is replacing the old two-year program. At in-service level an In-Service Training Unit was established in 2010 with the dual function of, first, up-skilling those in service and, second, training of untrained teachers already in the education system. The Principal of VITE, in interview, recognized the importance of embedding DRR within the new pre-service and in-service programs. 'We have to focus on the area,' he remarked. 'We have to do it because people have to respect their environment'.

Pre-service modules are on the drawing board with units on hazards and disasters. At in-service level, new training mechanisms harbor significant DRR professional development potential. In 2012 VITE has launched a first round of training of provincial trainers, two per province at any one time (one English speaker, one French speaker). After one month of on-site training, the trainers return to their province to start training teachers following a cascade model. 'This is decentralized training,' said the VITE Principal. 'We cannot possibly continue centralized training. We have started this year and we want to carry on.' 'For in-service training,' he added, 'we have to come up with some kinds of modules for disaster risk management, up-skilling and giving new knowledge.' The decentralized, cascade, approach, the Principal was also at pains to emphasize was built on the need to 'respect people, where they are, their own understanding of environment, and how they go about that.' It involved 'two-way communication'. There is clear potential for embedding DRR education within the new in-service framework as a means of meeting teacher needs while addressing provincially and locally specific disaster risk learning needs.

Section 6: Disaster Risk Reduction and the Vanuatu Primary Student

The 1989 United Nations Convention on the Rights of the Child, which the Republic of Vanuatu signed on 30 September 1990 and ratified on 7 July 1993, emphasizes the importance of voices of children on matters affecting their lives: 'States Parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child' (Article 12). Hence, student participation in this baseline research plays an important role in the process of developing DRR curriculum materials for Vanuatu.

Primary school students who participated in this baseline research expressed their concerns with respect to various hazards. During all thirteen focus group interviews, when being asked about their feelings about different hazards, participating students (across different grade levels, and both boys and girls) commonly expressed their fears saying that they 'feel bad', 'feel sad', 'feel scared', 'feel worried' or 'feel frightened'.

Among various hazards, student survey respondents are mostly concerned about: earthquakes (grade 1-3 questionnaire surveys: 75 responses, 88.2%; grade 4-6 questionnaire surveys: 98 responses, 72.1%); cyclones (grades 1-3 questionnaire surveys: 75 responses, 88.2%; grade 4-6 questionnaire surveys 97 responses, 71.3%); and tsunamis (grades 1-3 questionnaire surveys: 63 responses, 74.1%; grade 4-6 questionnaire surveys: 84 responses, 61.8%). Sea level rise is the equal third most frequently identified hazard among grade 1-3 questionnaire survey participants.



Figure 4: A Ranking of Top Four Hazards Worrying Students

When asked if they knew what to do in order to keep themselves safe in the face of different hazards, more than 70 per cent of the grades 1-3 questionnaire survey participants answered in the affirmative for tsunami (70.6 percent, 60 responses), while the most frequently chosen hazards about which they did not know what to do are volcanic eruptions (61.2 per cent, 52 responses) and landslides (52.9 per cent, 45 responses).

Figure 5: Grades 1-3 Students' Perceptions of Their Safety Knowledge Concerning Different Natural Hazards



More than 70 per cent of grade 4-6 questionnaire survey participants consider that they know what to do to keep themselves safe in the face of cyclones and fire (78.7%, 107 responses; 72.8%, 99 responses, respectively), while more than half of student respondents in grades 4-6 have no or little their knowledge about coping with drought (55.1%, 75 responses) and keeping themselves safe from sea level rise (60.3%, 82 responses) and landslide (57.4%, 78 responses).



Figure 6: Grades 4-6 Students' Perceptions of Their Safety Knowledge for Concerning Different Natural and Human-Made Hazards

When students said they knew to protect themselves in the event of a particular hazard, they were asked to give some examples of what they would do. Most commonly mentioned examples amongst both focus groups and survey responses were:

• *Earthquakes*: Run to and hold on to a navel tree (a local nut tree)⁶⁷; run up a hill/to higher ground; check the sea level; go to an open space; get under a table;

⁶⁷ On Efate island, people traditionally think that the navel tree stands still and will not fall during earthquakes since its roots go down vertically and so resist the vibrations. (This traditional knowledge is apparently not shared in other islands in Vanuatu). When students mentioned the navel tree during the focus group interviews, they were asked where they would be able to find the tree around their school. On every occasion and at all schools, all participating students without fail very promptly pointed to the navel tree. They were also confident that they know where the trees were in their own villages.

- *Cyclones:* Go to a strong and big house; build strong houses; close the windows; put bricks on the top of the house; do not go outside; drill timbers on top of the windows; cut down big trees near the house; listen to the radio; take warnings from the radio seriously
- Tsunami: Run up a hill/mountain
- Flooding: Climb up a tree

Some of the suggestions students advanced as examples of keeping themselves safe illuminate a gap between their own perceptions (that they think they know what to do) and the know-how actually required to keep safe. For instance, in the survey form, one student writes 'When the cyclone comes you will run up to the hill'. Another wrote, 'When spread of diseases comes I must run away'. Another student simply wrote, 'I cry'.

Asked in focus group how they have learned how to keep safe from a particular natural hazard, participating students said they learnt at home (from their parents, grandparents and older siblings). In a grade 4 focus group interview at Eratap school, students mentioned that 'the master' (the developer/owner of the big Eratap resort) informed all villagers, including children, about natural hazards.

Student focus group participants as well as questionnaire respondents expressed keen interest in learning more about disasters at school. For instance, 82 students (96.5%) of grade 1-3 survey participants want to learn more about how to stay safe from natural disasters at school. A grade 3 student at Tanoliu school explained the reason as follows: 'I want to learn because when the natural disaster comes you already know what to do.' 123 respondents (90.4 percent) to the grade 4-6 survey want to learn more about how to stay safe from natural and human-made hazards at school.

During focus group interviews, students came up with a number of preferred ways of learning about hazards and disasters at school. They include: books (textbooks, reading books, story books); teacher talking; group activities and games; community discussions; guest speakers; posters; pictures; drawing.

At the end of each student focus group, students were asked how, supposing they were the Minister of Education in Vanuatu, they could help Vanuatu school children learn in order to keep themselves and their communities safe from the dangers of nature. Students' suggestions are listed below:

- Teach/train teachers so that teachers can teach students (Ekipe School grade 3 focus group; Tanoliu school grade 5 focus group)
- Provide books (e.g. story books, textbooks) for teachers and students (commonly mentioned in all the focus groups)
- Raise awareness for everyone (including teachers, students, village people) (Ekipe school grade 3 and 4 focus groups; Manua School

grade 4 focus group)

- Inform village people (Manua school grade 4 focus group)
- Get rid of school fees so that everyone has an opportunity to learn about natural disasters (Eratap school grade 4 focus group)
- Provide information through radio, newspaper and mobile phones (Ekonak-Epau school grade 6 focus group; Eratap school grade 3 focus group; Eton school grades 5 and 6 focus group; Matarisu school grades 5 and 6 focus group Takara school grade 4 focus group)
- Take an airplane and go to the Tanna island to take a photo of the volcano. Then make a poster for students to learn about the volcanoes (Manua school grade 3 focus group).

Section 7: Integration of Disaster Risk Reduction in the Vanuatu Primary Curriculum: A Note on Policy, Planning and Implementation Aspects

In our recent mapping of the integration of DRR in school curricula globally,⁶⁸ we flagged the importance of inter-ministerial and wider partnerships as 'essential for effective and thoroughgoing DRR curriculum integration and for decisive and systematic movement to scale'. Our thirty case studies revealed 'examples of synergistic inter-ministerial partnerships in which the ministry or bureau responsible for disaster and emergency management has brought scientific insight on disasters and disaster risk reduction to the table while the ministry responsible for education, or its curriculum arm, has brought curriculum and pedagogical expertise and experience to bear as curriculum development proceeds'. The best partnerships, we underlined, were those that allied occasional high-level meetings of key stakeholders, ministerial and otherwise, with much more frequent collaborative engagement of experts in projects and through regular technical working group meetings.

In Vanuatu key stakeholders are the National Disaster Management Office (NDMO), the Ministry of Education, and key non-governmental and UN organizations such as Save the Children, UNESCO, UNICEF, CARE International, the Peace Corps and the Red Cross.

NDMO currently has seven staff. It has a single Training and Awareness Officer whose role includes engagement with Ministry of Education Curriculum Development Unit writers responsible for penning the new curriculum. The Officer is gathering basic information for feeding into the curriculum writing process but 'does not really meet with curriculum writers regularly'. NDMO officers characterized the relationship with CDU as falling short of dialogic collegiality in that they are asked for information but not for their pedagogical ideas although they are excited by the possibility of collaborating on pedagogical innovation. The officers were interested in co-creating learning activities and programs (while recognizing their low capacity given shortage of person power).

According to the NDMO officers, the main formal mechanism for NMDO/MOE partnership as it relates to schools is the Vanuatu Education in Emergency Cluster, a coordination mechanism overseen by the Ministry of Education but with co-leadership from Save the Children and UNICEF that brings together stakeholders 'with an interest in Education as a humanitarian response to Emergency scenarios or situations'.⁶⁹ As an NDMO focus group participant

⁶⁸ Kagawa, F. & Selby, D. (2012 Forthcoming). UNICEF/UNESCO Mapping of Global DRR Integration into Education Curricula Consultancy: Final Report. Geneva/Paris: UNICEF/UNESCO.

⁶⁹ Republic of Vanuatu Ministry of Education. (2011). *Memorandum of Understanding: Education Cluster*. Port Vila: MOE. 3.

sees it, 'not much work has been done in terms of DRR curriculum in the Education in Emergency cluster yet'.

As has been discussed, within the Ministry of Education the curriculum development writers have responsibility for writing the new national curriculum and for incorporating DRR within the cross-curriculum components and, since the components apply to all subjects at all grade levels, within all subjects. As has also been discussed, the CDU writing team feels this to be an uphill, even insuperable, task in that they lack hazard- and disaster-related data, learning resources and sample curricula and activities. Their call is for technical support. The CDU writing team as such is not represented in the Education in Emergency Cluster.

At its 28 March 2012 monthly meeting, the Cluster formed into focus group for purposes of this baseline research. Those present underlined the lack of disaster risk reduction in the current primary curriculum and the narrowness of what provision there in fact was (i.e. limited to mechanisms of hazard and some safety guidance). They also referred to the paucity of learning materials available, many still being 'in progress'. The lack of 'standardization' across NGO-produced materials was also proving problematic for potential users creating confusion concerning terminology and leading to mixed messages. So far, there appears to be no broadly-based and systematic and structured approach DRR-related program provision and materials development, a lacuna that the Save the Children Australia program is designed to address by means of continuous and direct engagement with the Curriculum Development Unit.

What appears to be lacking are mechanisms and arenas for 'nuts and bolts' partnership for curriculum development whereby those possessing hazardand disaster-related expertise can regularly engage around the table with those bringing curriculum and pedagogical expertise. There is a clear need for an ongoing dialog of detail and for forms of hands-on stakeholder collaboration in realization of the concrete. We have in mind the kinds of technical working group (and sub-groups) for DRR education, tasked with transforming high level strategic consensus into solid practice, that have proved so effective in a number of countries now showing leadership in DRR education. This is why the allied capacity building and coordination goals of the Save the Children concept note for its curriculum development initiative are of real significance.⁷⁰ The strong emphasis on networking, cross-sectorial coordination and micro-planning within a crucible of systematization as manifest in the Vanuatu Disaster Risk Reduction and Disaster Management National Action Plan offers the green light for hands-on, practical, guotidian partnership in development of DRR curriculum.⁷¹

⁷⁰ Save the Children Australia (Vanuatu). (2011). *Disaster Risk Reduction Education Concept Note.* Port Vila: Save the Children Australia.

⁷¹ Government of the Republic of Vanuatu. (2007). *Disaster Risk Reduction and Disaster Management National Action Plan (2006-2016)*. Suva (Fiji): Pacific Islands Applied Geoscience Commission.

Section 8: Disaster Risk Reduction Education in Vanuatu: A SWOT Analysis

An overall examination of the DRR curriculum picture in Vanuatu enumerating: <u>Strengths</u>, <u>Weaknesses/Limitations</u>, <u>Opportunities</u> and <u>Threats</u>.

WEAKNESSES /LIMITATIONS

STRENGTHS

 Strong interest and support for addressing DRR education in primary curriculum among all key stakeholders (including students) Governmental policies and strategies in place legitimizing DRR, urging coordinated efforts and supporting DRR awareness raising Philosophy and intentions of <i>Vanuatu National Curriculum Statement (VCNS)</i>, heralding new curriculum, very much in alignment with DRR best practice Strong support for DRR within leadership of CDU Active Education in Emergency Cluster with wide stakeholder representation, headed up by MOE Backcloth of general understanding that DRR matters for sustainable development and community wellbeing in Vanuatu Commitment to a major, funded DRR curriculum initiative (Save the Children) 	 Limited knowledge and understanding of DRR amongst teachers and within school system No clear, coherent structure to, or rationale behind, DRR provision in current curriculum Lack of DRR-related professional development opportunities for teachers No Vanuatu teacher handbook for DRR Lack of DRR resources for the classroom Lack of data and exemplar resources to help CDU curriculum writers author DRR curriculum Constructivist pedagogies, for the most part, not being used by teachers on the ground No simple clearinghouse mechanism for locating available DRR learning and teaching materials in Vanuatu Absence, so far, of 'hands-on' practical stakeholder collaborations and partnerships in aid of DRR curriculum development
<u>O</u> PPORTUNITIES	THREATS
 Capitalizing upon the transitional period before the new curriculum is in place and influencing developments In both letter and spirit <i>VCNS</i> offers an enabling framework for DRR teaching and learning Cross-curricular components, paramount outcomes and embrace of life skills in new national curriculum offer rich opportunity to locate DRR in all subjects at all grade levels MOE decentralization strategy opens door for element of localized DRR curriculum Emphasis within MOE on traditional knowledge offers curricular entry point for DRR through focus on indigenous practices Strong commitment to constructivist teaching in <i>VCNS</i> opens way for fully-fledged DRR pedagogy Availing of opportunities opened up by new VITE in-service training mechanisms 	 Insistent pressure to produce new curriculum and support materials to proposed timetable may take the eyes of CDU curriculum writers off DRR who have a sense of too many conflicting priorities anyway Human resource availability at CDU and VITE does not match present (estimable) ambitions and, without collaborative support, DRR may be the loser The major DRR curriculum initiative is not picked up by key players or, for any unforeseen reason, does not happen

Section 9: Recommendations for the DRR Curriculum Pilot

Recommendation 1: Develop a DRR pilot curriculum program at grades 4, 5 and 6 composed of activities written in a way that allows uptake at any of the three grade levels

The current Vanuatu primary curriculum at grades 4, 5 and 6 offers a fairly rich range of direct and indirect windows of opportunity for integrating DRR. We envisage developing activities that offer alternative tracks for the teacher to follow depending on the age, maturity and literacy level of the students in question. A pilot involving the three senior primary classes will also enable a wider range of pedagogical and evaluation approaches to be employed. This way forward also makes pragmatic sense in the light of a multi-level (grade 4, 5 and 6) class in one school, the absence of a grade 4 class in another school and the absence of grade 5 and 6 classes in a third.

Recommendation 2: The pilot should clearly demonstrate the cross cutting nature and interdisciplinary potential of DRR

We recommend that the pilot be grounded in the General Studies program but that there be parallel and linked activities for Languages, Mathematics and Arts. It is vital that the pilot demonstrate, not least to CDU curriculum writers, that DRR has a home in all subjects. It will coincide with MOE purposes, too, if the pilot points the way forward as to how cross-curricular components can be made manifest in all subjects.

Recommendation 3: The pilot should also offer some demonstration of what a localized DRR curriculum would look like

The pilot materials should include examples of DRR teaching and learning that respond to the particular constellation of hazards to be found in a locality. They should also demonstrate student engagement in and leadership of community-based disaster risk reduction initiatives.

Recommendation 4: The pilot activities and materials should also incorporate exploration of traditional ways of reducing risk from natural hazard

The materials should draw upon and coalesce local indigenous and wider scientific knowledge. Having students learn about traditional ways offers great potential for community involvement in the learning process. Indigenous knowledge is valid in its own right but also offers an excellent opportunity for child-centered learning building on an existing pool of knowledge. This

recommendation will also harmonize DRR curriculum developments with national policy directions

Recommendation 5: The pilot should model constructivist pedagogy

The pilot should employ and demonstrate a wide range of active, interactive and experiential learning approaches including: brainstorming; pair, small groups and whole group discussion; inquiry learning (team project work); surrogate learning experiences (filmic experience, board games, drama and role plays, simulation exercises); field experience (such as community vulnerability assessments), action learning (poster campaigns, village street theatre, risk reduction campaigns). In support of these approaches, as wide a range as possible of stimulus materials should be employed, with an accent on visual materials.

Recommendation 6: Teacher professional development in preparation for pilot implementation should harmonize with both the letter and spirit of what the children will experience.

Teachers are unlikely to teach to an active, interactive and experiential style unless they have themselves experienced being immersed in such a style. The training workshop, of a recommended minimum of three consecutive days, should be facilitated interactively throughout. Before they leave the workshop, the teachers from the ten pilot schools should also have practiced facilitating interactive learning. That having been said, they should also have obtained a deeper knowledge of disaster risk reduction as such and of the theory and practice of disaster risk reduction. They should also become familiar with active ways of assessing students' DRR learning as well as the contribution they will be expected to make to the pilot evaluation process.

Recommendation 7: VITE personnel should be in some way be involved in the professional development process

It is hoped that the professional development process – at the workshop and as acted upon back in school – will be of interest to VITE In-Service Training Unit as an approach that could be usefully applied to its new up-skilling programs and provincial training programs.

Recommendation 8: Within existing constraints, ways should also be found to involve CDU curriculum development writers, NDMO officers and members of the Education in Emergency Cluster in the practical 'dialog of detail' we called for earlier We see their involvement in the pilot at each of its phases as a mutual learning experience and a potentially catalytic way of fostering more practical, hands-on forms of partnership for taking forward DRR education.

Recommendation 9: Evaluation instruments should be developed alongside the pilot activities and support materials

Development of classroom activities and support materials for piloting should necessarily go hand in glove with the development of pilot data collection and evaluation instruments. The two are mutually influencing. 'How do we evaluate?' should not be an afterthought once the pilot has begun. That is rather like closing the stable door after the horse has bolted.

Appendix 1. Student Questionnaire Survey Form (Grades 1-3)

Learning about Disasters: What do you think?

-	-	
This is not a test. There are no right and interested in your views! If the words are help you.	wrong answers. We are difficult your parents or	e very teacher can
1. Please tell us about yourself:		
1.1. Are you a girl or a boy? (Please tick) Girl 🗆 Boy 🗆	
1.2. Which grade are you in? (Please tic	k) 1 🗆 2 🗆 3 🗆	
1.3. What is the name of your school? _		
 Which natural threats do you worry like) 	about? (Please tick as	many as you
CycloneFireFloodingEarthquakesLandslidesVolcanic eruptionSea level rise	Drought 🗆 Tsunami 🗆	
3. Please tick 'Yes ☺' or 'No ☺'.		
3.1. Do you know how to keep yourse	lf safe in a <u>cyclone</u> ? Yes ☺ □	No Θ 🗆
3.2. Do you know how to keep yourse	elf safe from <u>fire</u> ? Yes ☺ □	No 읭 🗆
3.3. Do you know how to keep yourse	lf safe from <u>flooding</u> ? Yes ☺ □	No Θ 🗆
3.4. Do you know how to cope with <u>dr</u>	r <u>ought</u> ? Yes ☺ □	No Θ 🗆
3.5. Do you know how to keep yourse	If safe in an <u>earthquak</u>	<u>e</u> ?
	Yes 🙂 🗆	No 읭 🗆

3.6. Do you know how to keep	yourself safe from <u>lands</u> Yes ☺ □	lides? No ☺ □
3.7. Do you know how to keep	yourself safe from <u>tsuna</u> Yes ☺ □	<u>ımi</u> ? No ☺ □
3.8. Do you know how to keep	yourself safe in a <u>volcan</u> Yes ☺ □	<u>iic eruption</u> ? No ☺ □
4. In school lessons which nat about? (Please tick as many as y	ural threats or disasters /ou like)	have you learned
CycloneFireFloodEarthquakesLandslidVolcanic eruptionsSea le	ling Drought Comparison Drought Drou	
5. In school lessons, <u>how did</u> y disasters? (Please tick as many	/ou learn about natural tl as you like)	hreats or
From textbook Teacher tal Puppet shows Class discuss Visitors to class Student clu activities From older chil	king Storybooks sion Visits outside s bs Safety drills dren visiting class	chool □ Playground
6. In school, do you like learnin Yes ☺ □ No	ng about natural threats ☺ □ Not Sure 🤤	and disasters? Э □
Please tell us a little more about v sure'	why you have chosen 'Yes	',' No' or 'Not
7. Do you want to learn more a disasters at school?	bout how to stay safe fro	om natural
Yes ☺ □ No	⊗ □ Not Sure	

If your answer is 'Yes' please tell us what especially you would like to learn more about. If your answer is 'No' or 'Not sure' please tell us why.

Thank you very much for your participation! ☺ ☺

Please return your questionnaire....

Student Questionnaire Survey Form (Grades 4 - 6)

Learning about Disasters: What do you think?

This is not a test. There are no right and wrong answers. We are very interested in your views! If the words are difficult your parents or teacher can help you.

1. Please tell us about yourself:
1.1. Are you a girl or a boy? (Please tick) Girl \Box Boy \Box
1.2. Which grade are you in? (Please tick) $4 \Box 5 \Box 6 \Box$
1.3. What is the name of your school?
2. Which natural and human-made threats are you worried about? (Please tick as many as you like)
Air accidents Cyclone Fire Flooding Drought Earthquakes Spread of diseases Sea level rise Industrial accidents Landslides Oil spills from ships Tsunami Volcanic eruptions Road accidents Industrial accidents Industrial accidents
3. Please tick 'Yes ☺' or 'No ອ'.
3.1. Do you know how to keep yourself safe in a cyclone?
$Yes \ \textcircled{\ } \square \qquad \qquad No \ \textcircled{\ } \square$
3.2. Do you know how to keep yourself safe from <u>fire</u>? (Please tick)
$Yes \ \textcircled{\ } \square \qquad \qquad No \ \textcircled{\ } \square$
3.3. Do you know how to keep yourself safe from <u>flooding</u> ?
Yes \textcircled{O} \square No \textcircled{O} \square
3.4. Do you know how to cope with <u>drought</u> ?
Yes $\textcircled{\circle}$ \square No $\textcircled{\circle}$ \square
3.5. Do you know how to keep yourself safe in an <u>earthquake</u> ?
Yes $\textcircled{\circleon}$ No $\textcircled{\circleon}$
3.6. Do you know how to keep yourself safe from the <u>spread of</u> <u>diseases</u> ?
$\underline{\qquad} Yes \ \textcircled{\ } \Box \qquad No \ \textcircled{\ } \Box$

3.7. Do you know how	to keep yourself safe	from the sea level rise?
Ŷ	∕es ☺ □	No 😇 🗆
3.8. Do you know how	to keep yourself safe	from <u>landslides</u> ?
γ	∕es ☺ 🗆	No 😕 🗆
3.9. Do you know how	to keep yourself safe	from <u>tsunami</u> ?
γ	∕es ☺ 🗆	No 😕 🗆
3.10. Do you know how	w to keep yourself safe	e in a <u>volcanic eruption</u> ?
Y	∕es ☺ 🗆	No 😕 🗆
3.11. Do you know how	w to keep yourself safe	e from being involved in a
road accident?	Yes ☺ 🗆	No 🙁 🗆
(Q3) for which you hav would keep yourself sa a	e ticked 'Yes' and give afe from each of the cl	e an example of how you nosen hazard.
b		
С		<u>_</u>
5. In school lessons w disasters have you lead Air accidents Cyclon Flooding Drought Spread of diseases	which natural and human rned about? (Please tion ne □ Fire □ Se t □ Earthquakes Industrial accidents	an-made threats or ck as many as you like) ea level rise Landslides Oil
 6. In school lessons, <u>h</u> hreats or disasters? (F 	unami ∟ Voicanic ei n <u>ow did you learn abo</u> Please tick as many as	ut natural and human-made
From textbook Te	acher talking Stor	ybooks 🗌 outsido school 🗔 — Visitors

 Puppet shows □
 Class discussion □
 Visits outside school □
 Visitors

 to class □
 Student clubs □
 Safety drills □
 Playground activities □

 From older children visiting class □

7. Do you like learning about natural and human-made threats and disasters?

Yes 😳 🗆	No 🔅 🗆	Not Sure 😐 🗆

Please tell us a little more about why you have chosen 'Yes' ,' No' or 'Not sure'

8. Do you want to learn more about how to stay safe from natural and human-made disasters at school?

 $\mathsf{Yes} \, \textcircled{\bigcirc} \, \Box$

No igodot \Box

Not Sure 😐 🗆

If you answer is 'Yes' please tell us what especially you would like to learn more about. If your answer is 'No' or 'Not sure' please tell us why.

Thank you very much for your participation! *Please return the completed questionnaire...*

Appendix 2: Teacher Questionnaire Survey Form

Disaster Risk Reduction Education in Vanuatu Schools: A Questionnaire for Teachers

1. Please tell us about yourself, your school and your location:				
1.1 What grade levels do you teach?				
1.2 What is your gender? (Please tick box) Male \Box Female \Box				
1.3 Do you teach all subjects across the curriculum or specific subjects?				
All Subjects 🗆 Specific Subjects 🗆				
If you teach specific subjects, please list them:				
1.4 To which of the following age bands do you belong?				
20-29 🗆 30-39 🗆 40-49 🗆 50-59 🗆 60-65 🗆				
1.5 Is your school in an urban or rural situation? Urban \square Rural \square				
1.6 Is your school/location? Easily reached \Box Cut off and hard to reach \Box				
1.7 Which natural hazards present a particular threat to your school and location? (Please tick all relevant <i>boxes</i>)				

Cyclone
Fire Flooding
Cyclone
Fire
Flooding
Cyclone
Cyclone
Cyclone
Fire
Flooding
Cyclone
C

2. Which of the hazards listed in 1.8 do you teach about in class, in which subject(s) and at what grade level(s)? (Please tick relevant boxes and enter details of subjects and grades for teaching of each hazard in the spaces provided)

Hazard		Sub	oject(s)	Grad	e Level(s)
Cyclone					
Fire					
Flooding					
Drought					
Earthquake	s 🗆				
Landslides					
Tsunami					
Volcanoes					

3. In the space below, briefly explain your understanding of what disaster risk reduction is.

4. Please list the *five* subjects that you think are the most useful carrier subjects for disaster risk reduction education. (Place in descending order of relevance so that (1) is the most useful and (5) the least useful).

(1)	
(2)	
(3)	
(4)	
(-)	

5. Can you briefly describe a sample disaster risk reduction (DRR) lesson that you teach in the space below?

6. What methods do you use to teach a disaster risk reduction topic? (Please tick relevant box for each method.)

I teach using the textbook – Always 🗆 Often 🗆 Sometimes 🗆 Never 🗆
I teach using resource packs – Always Often Sometimes Never
I use stories/storybooks – Always 🗆 Often 🗆 Sometimes 🗆 Never 🗆
I hold class discussions – Always 🗆 Often 🗆 Sometimes 🗆 Never 🗆
I arrange out-of-school visits Always □ Often □ Sometimes □ Never □
Visitors come to speak to class - Always $\Box~$ Often $\Box~$ Sometimes $\Box~$ Never $\Box~$
I involve the community - Always Often Sometimes Never
I use role play/drama/games - Always □ Often □ Sometimes □ Never □

I use other methods (please describe):

7. How would you describe the learning materials you have available to support your disaster risk reduction teaching? (Please tick as many boxes as you wish)

Sufficient for purpose \Box	Insufficient for purp	ose 🗆						
Of good quality \Box Of	mediocre quality 🗆	Of poor quality \Box						
Appealing to students Unappealing to students								
Well grounded in Vanuatu	culture 🗌 Not grounde	ed in Vanuatu culture 🗆						
Relevant to local experien	ce 🗆 Not relevant enou	ugh to local experience \Box						

8. Please describe any co-curricular (i.e. out of class) disaster risk reduction activities you involve the students and (if appropriate) how you link out-of-class learning experiences with what the children learn in class.

9. Do you assess (examine) students' learning in DRR? Yes \Box No \Box

If so, please describe the kinds of assessment you use:

10. What do you think are the *three* most important learning outcomes for students out of disaster risk reduction lessons? (Please place in descending order so that (1) is the most important learning outcome and (3) the least important learning outcome).

(1)	 	 	
(2)	 	 	
(3)			

11. Have you received teacher training in disaster risk reduction?

Yes \Box No \Box

If 'Yes' please describe the training (When? Where? How many days/hours? What did the training program include?)

12. If you would you like some training – or training additional to that you have already had – what are the *three* aspects of DRR teaching you would most like training in? (Please place in descending order of importance)

(1)					
()					

(2)	
• •	

(3) _____

13. How important do you think disaster risk reduction education is for Vanuatu schools? (Please tick one box only.)

Hugely important 🗌
Very important 🗆
Of some importance \Box
Not very important 🗆
Of no importance \Box

14. Please use the space below if you wish to communicate any further ideas or views on disaster risk reduction education that you would like to put to those responsible for the questionnaire.

Thank you! Please return the completed questionnaire....

Appendix 3. Semi-Structured Interview (SSI) Schedules

Student Focus Groups

- [Show students a collection of pictures of hazards/ disasters that took place in Vanuatu] Please look at each picture. What do you see happening? Have you experienced anything similar? Have you met anyone who has told you about something similar? Where do such things happen in Vanuatu? Does the possibility of such a thing happening worry you?
- Do you know how to keep yourself safe from the dangers of nature? Do you know what to do if some hazard strikes? (If so) how did you learn? From parents? From people in the community? At school?
- What have you learnt about hazards and disasters at school? [If the answer is yes] Which hazards? In which subjects? At which grade levels? What did you learn - about the hazards - about what to do when a hazard strikes - about how to best prepare for a hazard to reduce the danger?
- How did your teachers teach about these events? Can you describe an actual lesson you had? Did you like the ways the teachers taught you? Can you explain why you liked it/did not like it?
- When you learn about hazards and disasters, what does the teacher use to teach you a textbook, pictures, field trips or what? Any special class activities?
- At your school, do you have any out-of-class activities aimed at making your school and the students safe from hazard incidents? If so, what are they? Have you participated in them? Can you describe them?
- Do you think that what you have learned about hazards and disasters has been right for the hazards you actually face in your community?
- If you were the Minister of Education in Vanuatu, what do you think Vanuatu children should learn at school in order to keep them and their community safe from the dangers of nature?

Teacher Focus Groups

- In the Vanuatu school curriculum where can you fit your teaching for disaster risk reduction and climate change education?
- Do you see other opportunities for teaching DRR/CCE that you could exploit? What are the constraints and obstacles that hold you back from exploiting them?
- What importance do you think is given to DRR/CCE in the curriculum? Do teachers give it the same level of importance?
- Can you give me some examples of DRR/CCE lessons you teach?
- What teaching/learning methods are you using for DRR/CCE?
- How would you assess the quality and usefulness of the DRR/CCE learning resources you have available? How could they be improved? Are there enough resources?

- What is your sense of students' reaction to DRR and CCE lessons? What do they like? What don't they like?
- What natural and human-induced hazards are addressed in the curriculum and what are not? Do you think the coverage of natural and human-caused hazards in the curriculum is sufficient and also relevant given the particular mix of hazards in the district in which your school is located? What is missing?
- Does DRR also appear as a co-curricular or extra-curricular activity at your school? Do you link the co- and extra-curricular to what happens in lessons?
- To what extent do your DRR lessons involve students working in the community and with members of the community on, say, community disaster risk assessments?
- In Ministry documents there is separate emphasis on improving school safety. Is school safety a focus at your school? Do you link it with student learning?
- What do you see as the key competencies and learning outcomes that children come away from DRR/CCE lessons with?
- Do you assess/examine children's DRR/CCE learning? If so, how?
- VESS and Ministry plans also talk about decentralization to provincial level. Would you find it useful to have some provincially- or locallydeveloped DRR curriculum?
- In VESS and other documents, there is strong emphasis on informing curriculum with indigenous culture and ways. Is this something you do in your teaching? Can you give examples?
- What are the *three* things you would most like to see happen in support of your DRR/CCE teaching?
- What is your vision of the ideal DRR/CCE curriculum for Vanuatu?

Ministry of Education Curriculum Development Unit Focus Group

- Where are DRR/CCE presently located in the school curriculum and at what grade levels?
- Are DRR/CCE being systematically written into the new curriculum? If not, do you see windows of opportunity for introducing DRR (and CCE) into the new curriculum as so far developed?
- What natural and human-induced hazards are being addressed in the Vanuatu curriculum and what are not?
- What do you see as the key competencies that DRR (and CCE) can develop in students? Are they being developed?
- There is emphasis in VESS and Ministry plans on student-centered active learning. Is this happening in DRR teaching? Can you share examples?
- What is your view of the quality of DRR learning resource materials being used in Vanuatu schools?
- Are links being made between subjects and across grade levels in terms of DRR education?
- In VESS and other Ministry documents, there is strong emphasis on informing curriculum with indigenous culture and ways. How is this

being done in practice? Is it being done with DRR/CCE curriculum development?

- Within VESS, there is a strong emphasis on decentralization with some mention of devolution of control of the curriculum. Is curriculum devolution happening? Could it be applied with any benefit to DRR/CCE curriculum? How much do urban and rural areas of Vanuatu require different DRR learning?
- VESS mentions involvement of key stakeholders in the curriculum development process as one key to quality improvement. What governmental groups are involved in DRR curriculum development? NDMO? What other key stakeholders? Through what mechanisms do they work together?
- Is there community involvement in DRR curriculum development? Do aspects of DRR curriculum involve student engagement with the community?
- Wherever DRR appears in the curriculum, are specific DRR learning outcomes (as against subject-specific learning outcomes) laid down?
- Wherever DRR learning occurs in the curriculum, is the learning assessed? If so, what forms of assessment are used?
- What is your vision of the ideal DRR/CCE curriculum for Vanuatu? What would it include? What would be its key aspects and qualities?

NDMO Focus Group

- Within the remit and operation of NDMO is there a specific responsibility for DRR education? What is the nature of that responsibility?
- What degree of cooperation is there between NDMO and MOE regarding DRR education? What is the nature of that cooperation? Through what mechanisms does the cooperation work? Does the cooperation extend to other groups and stakeholders? How?
- What do you see as the main natural hazards on Vanuatu that should be addressed through DRR education? What are the principal technological hazards?
- Is there a case for localized curriculum in Vanuatu given the different hazards, and degree of those hazards, on different islands?
- What credence do you put on the call for teaching students indigenous (traditional) approaches to DRR?
- Do NDMO personnel actually present on DRR at schools and/or at VITE? If not, is there a role you might play here?
- What is your optimal vision for DRR education on Vanuatu?
- What is your optimal vision of the role of NDMO with regard to DRR education on Vanuatu?

Education in Emergency Cluster Focus Group

- What do you see as the current status of DRR (and CCE) in the Vanuatu primary school curriculum?
- What natural and human-induced hazards are addressed in the curriculum and what are not? Do you think the coverage of natural and human-caused hazards is sufficient in the primary school curriculum?
- What do you see as the key components that DRR (and CCE) can develop in students? Are they being developed?
- What is your view of the quality of existing DRR teaching and learning resource materials being used in Vanuatu primary school?
- The EiE MOU document refers to a 2011 work plan. The plan itself forms Annex 4. Has the plan been fulfilled? Has a plan been produced for 2012? If so, can we see it?
- The plan (annex 4, p.16) has, as Priority Area 8 the following: 'Consultation with the CDU for the development of; the Education in Emergency Curriculum; Integration of DRR into formal curriculum especially social studies'. [This is repeated as an 'ongoing activity', p.18.] What has been the nature and degree of progress with the CDU in terms of Education in Emergency Curriculum and DRR Integration? Is there any documentation arising from the ongoing consultation? If so, can we see it? Why does the Cluster highlight integration into social studies - what is their rationale for this? The MOE 2010 Education in Emergency Policy and Plan Action Plan sections 8 and 9 talks about 'emergency education curricula' and 'mobilizing and training Teachers and Education Personnel'. Could you share what is actually happening in each action (especially 1, 2, 6, 7, 8)? Are things moving? If not, what have been the challenges?
- In the MOE documentations there is a goal of building Vanuatu ways and culture and indigenous knowledge into curriculum. Is this being effected? What are the implications for DRR curriculum development?
- What is your vision of the ideal DRR/CCE curriculum for Vanuatu?

Principal, Vanuatu Institute of Teacher Education, Individual Interview

- What do you see as the current status of DRR/CCE in the Vanuatu school curriculum? What is seen to be its scope and purpose? How important do schools, principals and teachers think DRR/CEE are? What are the major obstacles standing in the way of good DRR/CCE education?
- What do you think teacher training for DRR/CCE should involve?
- Do teachers feel sufficiently prepared and equipped to teach DRR/CEE? What improvements in teacher quality are particularly needed for effective DRR/CEE teaching?
- What pre-service programs or units of programs are so far available in Vanuatu in DRR and CCE? What proportion of trainee teachers do

programs reach? Are new pre-service developments being planned or currently being implemented?

- What in-service DRR and CCE-related training provision is in place in Vanuatu? What proportion of teachers in service does the provision reach? Are new in-service developments being planned or currently being implemented?
- Has training of trainers in DRR/CCE been made available to you and other trainers?
- Across both pre-service and in-service DRR courses what learning and teaching methods are being employed?
- What resource materials are you using in your DRR/CECE teacher training? Are there enough resources of sufficient quality? What more would you like?
- Is the training directed towards DRR/CCE for particular subjects, all subjects, as a crosscutting life skill, as an interdisciplinary approach, or as a discrete subject area?
- Is training of teachers in DRR/CCE student assessment happening?
- VESS talks of decentralization and overcoming urban bias in the education sector. What role does the teacher-training sector have, if any, in this process, especially as regards DRR and CCE? What role might it play in any devolved (provincial or localized) approach to DRR/CCE curriculum?
- In VESS and other Ministry documents, there is strong emphasis on informing curriculum with indigenous culture and ways. What implications is this having for DRR/CCE curriculum development and, especially, teacher training?
- VESS mentions involvement of key stakeholders in the curriculum development process as one key to quality improvement. How are teacher educators and teacher education institutions involved as stakeholders? Who do you work with? Through what mechanisms and channels do you work?
- What is your vision of the optimal DRR/CCE curriculum for Vanuatu? What is your vision of how teacher educators and teacher education institutions should be best involved?

Principal Education Officer, Curriculum Development Unit, MOU, Individual interview

- How is the new National Curriculum being introduced? All at once? Incrementally (grade level by grade level)? When does implementation begin to happen?
- In the new National Curriculum where do you see the greatest windows of opportunity for introducing DRR/CCE teaching and learning?
- The National Curriculum Statement lists ten essential cross-curriculum components. Under which components would you see DRR/CCE happening?
- What is the remit of curriculum writers in terms of cross-curriculum components? Are they being asked to integrate each component into every subject/grade level? Or do they have directions to prioritize

certain components in certain subjects and at certain grade levels? If so, where would those components most fitted for DRR/CCE be taught?

- There are frequent references in the *National Curriculum Statement* to life skills learning. How will life skills find expression under the new curriculum? Is there a list of life skills to be included? Is there a connection between the cross-curriculum components and life skills?
- Could you reflect on the relationship between DRR/CCE teaching and learning and the six national paramount outcomes as laid out in the *National Curriculum Statement*?
- Much is made in the documentation reviewed for instance the Vanuatu Education Sector Strategy - of decentralization. Some ni-Vanuatu colleagues have called for an element of localized DRR/CCE curriculum given the different set of natural hazards on different islands. Is some curriculum decentralization possible?
- The Ministry of Education has a goal of rebuilding Vanuatu culture and indigenous knowledge through the curriculum. How important is traditional knowledge for a Vanuatu DRR curriculum?
- Child-centered constructivism is core to the new national curriculum. How do you think DRR/CCE should be taught? What would a constructivist approach to DRR curriculum look like?
- What, in sum, is your vision for DRR/CCE under the new curriculum?

Appendix 4: Pilot School Profiles

Ekipe School

Total Number of Students: 206

Grade	1	2	3	4	5	6	7	8
Male	16	14	17	9	13	16	15	5
Female	13	11	11	13	12	10	13	18
Total	29	25	28	22	25	26	28	23

Total Number of Teachers: 9 (6 female; 3 male)

Surrounded by coconut plantations, the school is located in a flat area about 500 meters away from the sea. A hillside is not far from the school (about 1.5 km). The school has 4 permanent buildings and 1 semi permanent building. It has a pleasant big play ground. The school catchment area covers Ekipe, Epau, Epule, Takariki, Tongariki and Lamin villages. People are originally from Tongariki and Tongoa. There exists good Chiefly village governance in the area. The school receives excellent community support for education. A pleasing covered shade area for taking lunch has been built by community members. The school practices good management in terms of classroom control and teacher performance. Traditional values are emphasized and traditional customs are practiced (for instance, the school has Culture Class where students can learn traditional games, songs, dances, cooking and social attitude). Some houses for teachers stand in the school grounds.

Ekonak-Epau School

Total Number of Students: 80

Grade	1	2	3	4	5	6
Male	10	1	5	7	3	12
Female	15	7	6	5	5	4
Total	25	8	11	12	8	16

Total Number of Teachers: 3 (2 female; 1 male)

The school stands just beside the main road. It is in the middle of Ekonak-Epau village, which is the school catchment area. There is a big river close by. The school has two permanent buildings (one was built by the Japanese government and another by Australian Rotary Friends). There is a kindergarten within the school property. The school currently uses 4 classrooms. The school receives very good support from the local community. For instance, parents help with cleaning and maintenance of the school.

Eratap School

Total Number of Students: 225

Grade	1	2	3	4	5	6	7	8
Male	15	11	15	12	15	11	18	17
Female	15	14	14	15	11	15	14	13
Total	30	25	29	27	26	26	32	30

Total Number of Teachers: 11 (8 female; 3 male)

The school is located on higher ground with a view of the sea in the distance. The school is in the middle of Eratap, big village with a spread of settlements. This big school has four permanent buildings within relatively small school grounds but has a good-sized playground. The school catchment area covers Eratap, Efas and Teouma villages, and some homes being quite far away from the school (10 km). It receives good support from parents. The school has mains power supply and access is easy. Cyclones are a concern for the school. A developer (local people call the person 'Master') owns the very big Eratap Resort offering local jobs.

Eton School

Grade	1	2	3	4	5	6	7	8
Male	13	10	14	14	9	9	14	11
Female	23	15	12	10	10	14	13	9
Total	36	25	26	24	19	23	27	20

Total Number of Students: 200

Total Number of Teachers: 9 (3 female; 6 male)

This big school stands in the middle of Eton village, a very big village spreading over a number of settlements. The school is in a flat area, about 250 meters away from the sea. The school grounds are relatively small with no playground area. The school has two permanent buildings and one semipermanent building. Some houses for teachers stand in the school grounds. The school has a good collaborative culture among the teachers and has an active Teacher Community Association (TCA).

Malatia School

Total Number of Students: 43⁷²

Grade	1	2	3	4	5	6
Male	7	0	0	4	0	13
Female	4	0	0	7	0	8
Total	11	0	0	11	0	21

Total Number of Teachers: 2 (1 female; 1 male)

The school is located just a few hundred meters away from the sea and is close to the road. It is surrounded by a cattle farm and by a coconut plantation. It is not very far from a dry creek. The school catchment area comprises Siviri and Malatia villages, which are between 1 to 2 kms away from the school. The school has one permanent building with three classrooms. The school principal does not live in the village. The school receives a moderate level of community support.

Manua School

Total Number of Students: 250

Grade	1	2	3	4	5	6	7	8
Male	14	15	17	14	21	21	18	17
Female	17	16	10	14	14	10	18	14
Total	31	31	27	28	35	31	36	31

Total Number of Teachers: 10 (4 female; 6 male)

This large school is located by a main road. The School is located about 500 meters away from the sea and is surrounded by trees, including some coconut trees. The school catchment area covers Takara, Onesua, Bonagnisu and Emua villages. Takara students commute some 4-5 km to attend grades above five. The school has 5 permanent buildings, and has a very good and spacious play ground including a basketball space. The school receives good support from local communities.

⁷² The breakdown of student numbers below does not tally with the number of student focus group participants and student survey returns for reasons unknown.

Matarisu School

Total Number of Students: 52

Grade	1	2	3	4	5	6
Male	0	4	2	2	4	5
Female	0	6	5	6	5	3
Total	0	20	7	8	9	8

Total Number of Teachers: 2 (2 female)

The school is located in a flat area about 300 meters away from the sea. It is also close to a hill. School catchment areas include Matarisu, Epule and Epule Top villages, all located within 1 km from the school. The school has two permanent buildings and 3 classrooms. It has open school play ground. Two teacher houses and a kindergarten stand within the same school location. The school has two multi-classes (i.e. grades 2, 3 and 4; grades 5 and 6).

Pango School

Total Number of Students: 60

Note: registration has not yet taken place, so exact student numbers per grade are not available (male total: 23, female total: 37)

Total Number of Teachers: 2 (2 male).

This new francophone school is located in a flat area, about 200 m away from the sea. There is a hillside close by. The school is set within Pango village the main catchment area. Some of Port Vila also falls in the catchment area. In Pango village there is also an English speaking school. This French school is currently in the middle of move from a previous location, the move occasioned by the selling the previous school land by a developer). The new school venue has 9 permanent buildings and 10 classrooms. Many of the classrooms were empty at the time of school visit. It has well-maintained school grounds with a fence. Its playing ground is spacious. In Pango village, there is a big resort where some of the parents work.

Takara School

Total Number of Students: 71

Grade	1	2	3	4
Male	11	8	13	4
Female	8	9	5	13
Total	19	17	18	17

Total Number of Teachers: 2 (2 male)

This small school is located not far from the road and close to the sea. It is situated within Takara village, which comprises one of two catchment areas, the other being Onesua village. In Takara village, a hot spring resort is currently under development. The school receives its water supply from the nearby river. Cooperation from these two communities with the school is so far very limited. In Takara people use one vernacular language, while in Onesua several vernacular languages are used since people moved from many different islands. There are three temporary classrooms and grades 3 and 4 share one room. The school also uses outside space under a tree in good weather conditions. A new school building is currently under construction with support from AusAid.

Tanoliu School

Grade	1	2	3	4	5	6
Male	5	11	12	0	11	11
Female	10	5	13	0	12	6
Total	15	16	25	0	23	17

Total Number of Students: 96

Total Number of Teachers: 4 (1 female; 3 male)

The school is located in a rural area and is close to the road built two years ago. It is in a commuting distance of Port Vila. The school is surrounded by communities and is situated only 10 meters away from the sea. The school catchment areas are Malafua, Meten and Port Havana. The school is close to the Ulei secondary school. One permanent building and two temporary buildings stand on a small area of land. Grades 1 and 2 are multi-class. The school has good phone and radio connections.

Appendix 5: A Detailed Breakdown of Student Questionnaire Returns

Pilot School		1	2	2	3		
	Boys	Girls	Boys	Girls	Boys	Girls	N/A
Ekipe					6	5	
Ekonak-							
Epau							
Eratap					11	4	
Eton							
Malatia		2	1	1	2	5	
Manua					10	4	1
Matarisu							
Pango							
Takara					12	4	
Tanoliu					9	8	
TOTAL		2	1	1	50	30	1
							85

Grade 1-3 Questionnaire Survey Returns

Grade 4-6 Questionnaire Survey Returns

Pilot School		4		5		6	
	Boys	Girls	N/A	Boys	Girls	Boys	Girls
Ekipe	7	9					
Ekonak-						11	4
Epau							
Eratap	10	11					
Eton				9	10	6	12
Malatia				1	2	6	6
Manua	8	8	1				
Matarisu							
Pango							
Takara							
Tanoliu				7	8		
TOTAL	25	28	1	17	20	23	22
							136

Appendix 6: A Detailed Breakdown of Student Focus Group Participation

Pilot School	Grade	Number of Students	Date of Focus		
			Group		
Ekipe	3	8	21 March		
	4	8	21 March		
Ekonak-Epau	6	16	29 March		
Eratap	3	8	23 March		
	4	8	23 March		
Eton	5 and 6	16	29 March		
Malatia	5 and 6	14	22 March		
Manua	3	8	22 March		
	4	8	22 March		
Matarisu	5 and 6	14	29 March		
Pango		No focus group			
Takara	4	8	22 March		
Tanoliu	3	17	21 March		
	5	15	21 March		
Total Number of Students Participated					
in Focus Group		146			

Appendix 7: A Breakdown of Teacher Questionnaire Survey Returns

Pilot School	Number of Survey
	Returns
Ekipe	7
Ekonak-Epau	3
Eratap	9
Eton	9
Malatia	2
Manua	7
Matarisu	No survey
Pango	No survey
Takara	2
Tanoliu	3
Total	42

Appendix 8: A Breakdown of Teacher Focus Group Participation

Pilot School	Number of Teachers	Date of		
		Focus Group		
Ekipe	9 (plus 1 volunteer)	21 March		
Ekonak-Epau	No focus g	roup		
Eratap	No focus g	roup		
Eton	10	29 March		
Malatia	No focus g	roup		
Manua	9	22 March		
Matarisu	3	29 March		
Pango	2	23 March		
Takara	No focus group			
Tanoliu	4	21 March		
Total Number of Teachers Participated				
in Focus Group	38			