

RUN RUN
DIE DIE

actual response to Tsunami at
Patong Beach, Phuket

Direct Warning to Direct Action



Phuket ~ Saved by a lesson A 10 year hold British schoolgirl saved the lives of hundreds of people in Thailand after learning about tsunamis in a geography class. Tilly, dubbed the “angel of the beach” by The Sun newspaper, was holidaying in Phuket when she suddenly grasped what was taking place and alerted her mother. “Last term Mr. Kearney taught us about earthquakes and how they can cause tsunamis. I was on the beach and the water started to go funny. There were bubbles and the tide went out all of a sudden. I recognised what was happening and had a feeling there was going to be a tsunami. I told mummy.” Her intuition was enough to prompt the evacuation of Phuket’s Maikhao beach and a neighbouring hotel. Tilly’s geography teacher, Andrew Kearney, had explained that the ocean would draw out about 10 minutes before a tsunami struck.

A satellite image of Tropical Cyclone Larry over Australia. The cyclone is a large, dark, swirling mass in the center of the frame, with a distinct eye. The coastline of Australia is visible as a white line. Longitude markers -144, -146, and -148 are at the top. Latitude markers 18 and 20 are on the right. The text 'TROPICAL CYCLONE LARRY' is at the bottom left, and '19 MAR 06 20:33 UTC' is at the bottom right.

DISASTER VIEWPOINTS: ADULT'S AND CHILDREN'S EXPERIENCES OF DISASTER, RECOVERY, AND LESSONS FOR MITIGATION

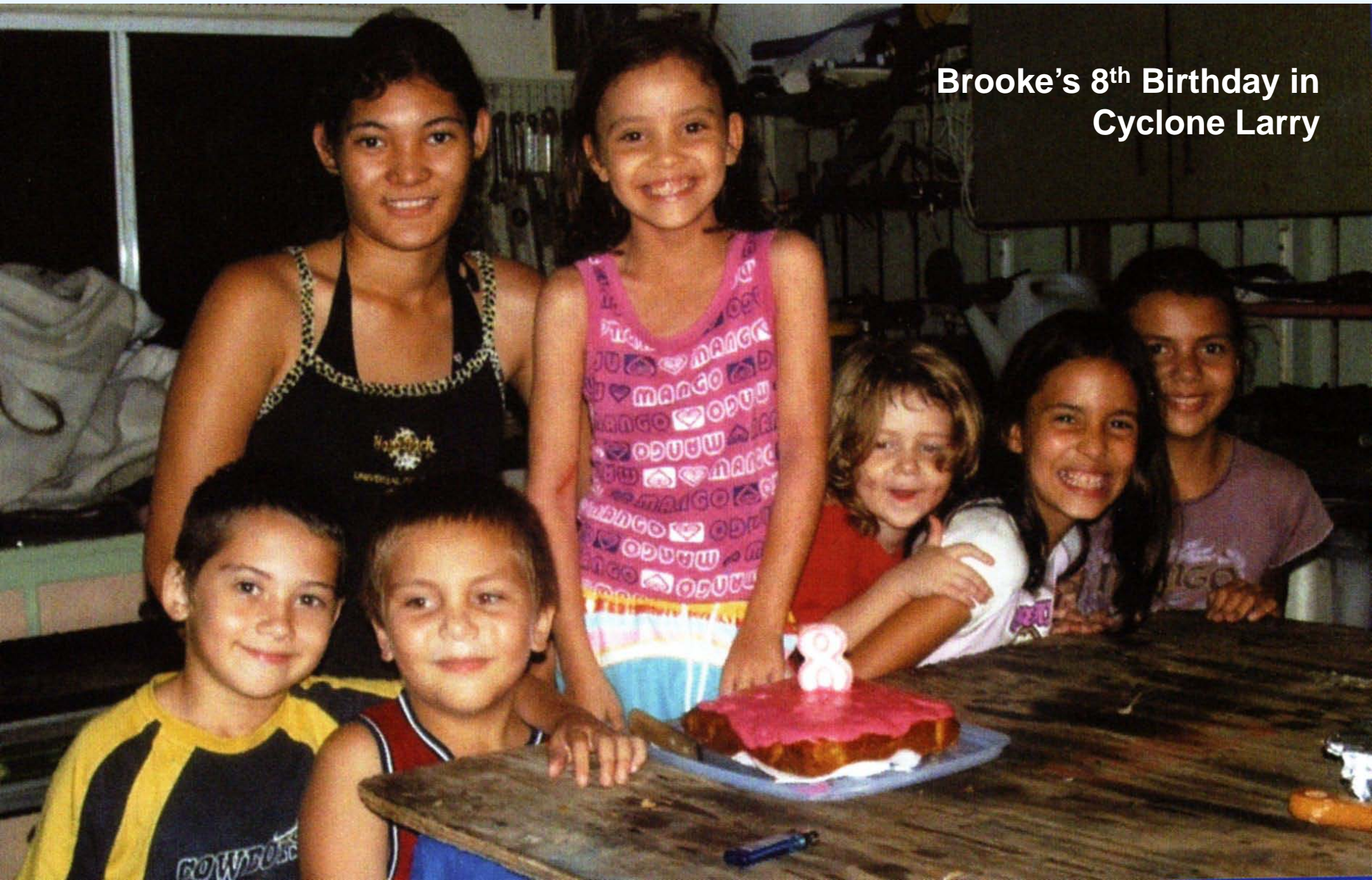
**David King Centre for Disaster Studies, James Cook
University**

| Place | | Year | Hazard | Name | Research Method |
|------------------------------|--|------|-----------|----------------------|--|
| Townsville | | 1997 | Cyclone | Gillian | Questionnaire, warnings & behaviour |
| Cloncurry | | 1997 | Flood | | Questionnaire, interviews |
| Cairns, Mareeba | | 1997 | Cyclone | Justin | Longitudinal Questionnaire & short survey questionnaire |
| Innisfail | | | | | |
| Townsville | | 1998 | Floods | (Syd) | Household Telephone, Business & Magnetic Island surveys & interviews |
| Burketown, Normanton Karumba | | 1998 | Floods | | Questionnaire, interviews |
| Innisfail | | 1999 | Cyclone | Rona | Flooded buildings survey |
| Cairns – Barron River | | | | | Evacuation questionnaire |
| Port Douglas & Mosman | | | | | Warnings & behaviour questionnaire |
| Wujal Wujal | | | | | Warnings & impact interviews |
| Broome | | 2000 | Cyclone | Rosita | Questionnaire, interviews |
| Cairns | | 2000 | Cyclone | Steve | Longitudinal Questionnaire |
| Mornington Island | | 2001 | Cyclone | Abigail | Questionnaire, Interviews |
| Sierra Leone | | 2002 | Civil War | | Interviews, meetings, secondary data |
| Bali | | 2003 | Terrorism | | Interviews, meetings, secondary data |
| Tikopia & Anuta Solomons | | 2003 | Cyclone | Zoe | Basic Needs Assessment |
| | | | | | |
| Phuket, Thailand | | 2005 | Tsunami | Indian Ocean Tsunami | Interviews, observations, field measurements, secondary data |
| Maldives | | | | | |
| Port Douglas | | 2005 | Cyclone | Ingrid | Interviews, questionnaire |
| Innisfail & communities | | 2006 | Cyclone | Larry | Interviews, questionnaire |
| Darwin | | 2006 | Cyclone | Monica | Telephone survey |
| Cairns & Townsville | | 2007 | Tsunami | | Warning Response household Questionnaire |

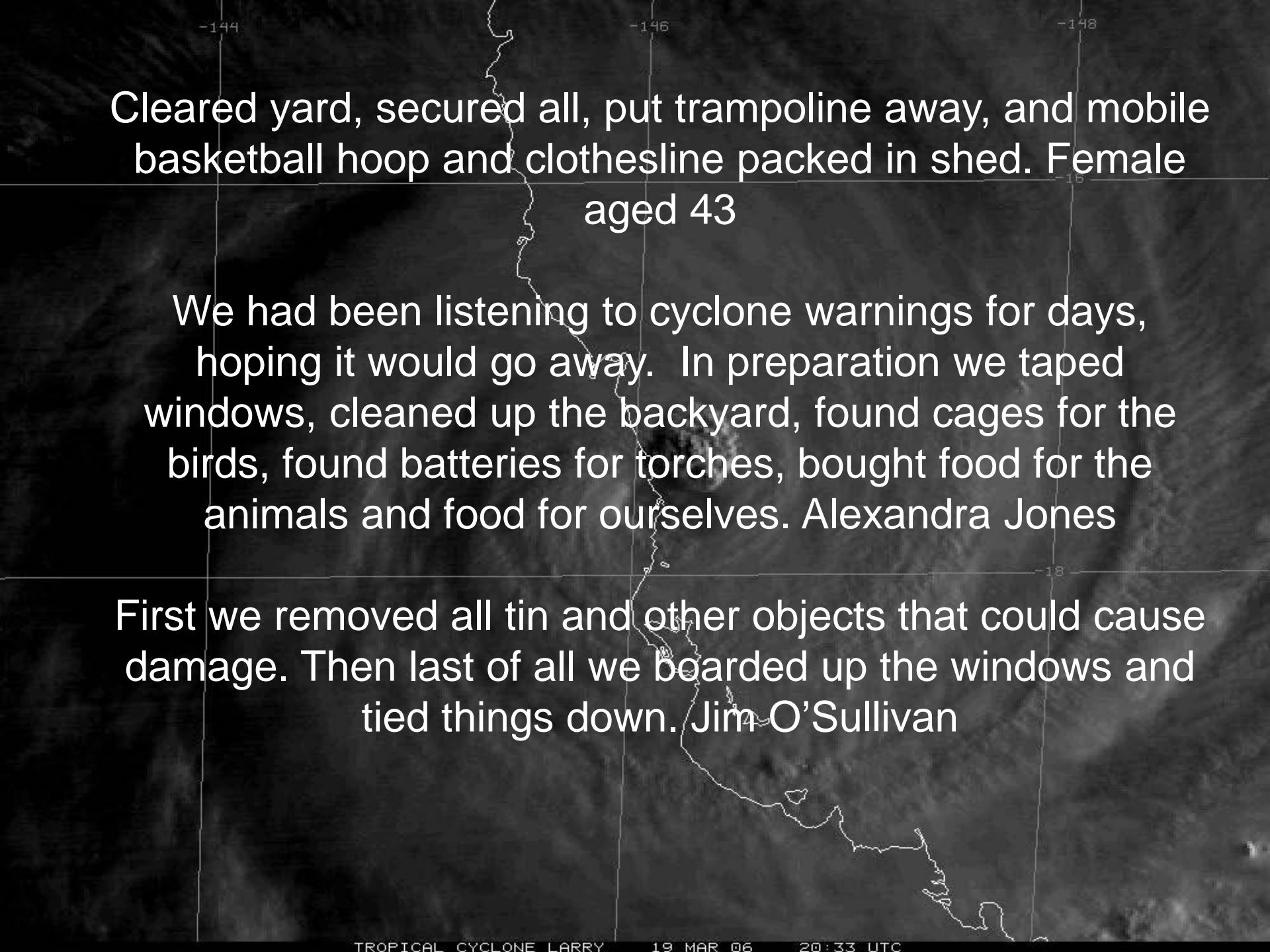
Cyclone Larry – the rural setting



Preparations cyclone warning prompted people throughout
Sunday 19th March



**Brooke's 8th Birthday in
Cyclone Larry**



Cleared yard, secured all, put trampoline away, and mobile basketball hoop and clothesline packed in shed. Female aged 43

We had been listening to cyclone warnings for days, hoping it would go away. In preparation we taped windows, cleaned up the backyard, found cages for the birds, found batteries for torches, bought food for the animals and food for ourselves. Alexandra Jones

First we removed all tin and other objects that could cause damage. Then last of all we boarded up the windows and tied things down. Jim O'Sullivan

Family and Communication

During the cyclone we had many phone calls and text messages, some from Tully friends who forgot to get batteries for the radio and others from the relations and friends in places like Sydney, Brisbane, Moranbah and even America checking up on us. Danielle Silvestro





Gurpreeth

We are not particularly close to our neighbours but because it was such a horrible experience, we kept checking out how each household was doing and kept swapping one generator between two households. We buried any negative feelings because the community has got to work together.

Male aged 37

We called friends, they called us. Gurpreeth Singh

Place and Actions in Sheltering During Cyclone Larry's Passage

| Actions to shelter | Number | | Percent | |
|-----------------------------|------------|--|---------------|--|
| | | | | |
| Evacuate | 17 | | 12% | |
| Shelter in central room | 31 | | 21% | |
| Under mattresses | 13 | | 9% | |
| Under table | 2 | | 1% | |
| Shelter in bathroom/laundry | 16 | | 11% | |
| Lounge | 14 | | 10% | |
| Shelter in bedroom | 8 | | 5% | |
| Kitchen | 2 | | 1% | |
| In room under house | 12 | | 8% | |
| Anywhere/moved about | 28 | | 19% | |
| In car/garage | 3 | | 2% | |
| Total | 146 | | 100.0% | |

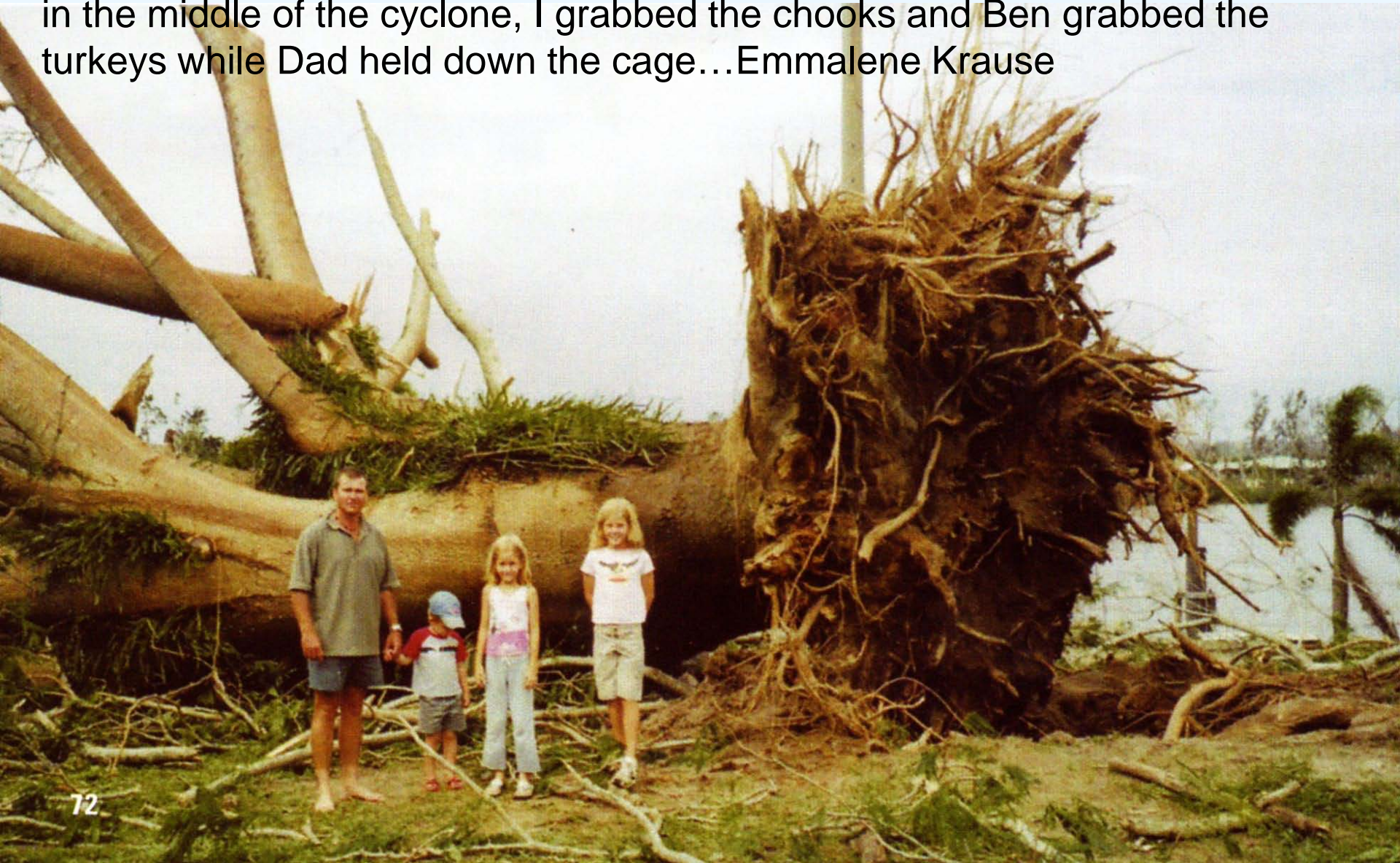


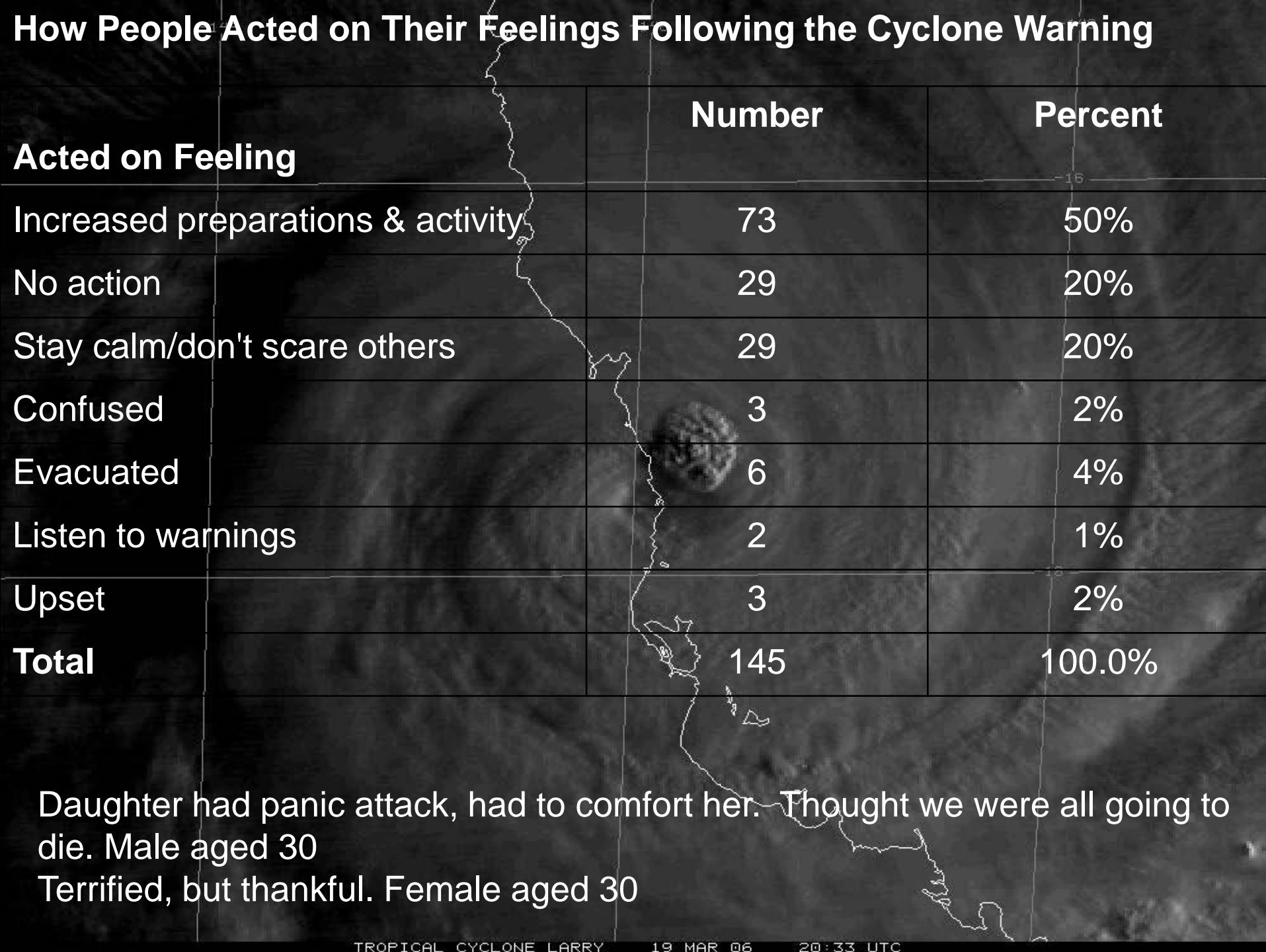
My horses had to come inside the laundry when the cyclone came so they didn't blow away.
Natasja Crowley

Friends flat – in the stair well, then in the downstairs 'bunker', but the roller door blew in. Male aged 40
What I vividly remember is that when my family was sitting in a little group down in the laundry under a mattress I was wondering if our roof was going to come off. Jack Dorney

During the Eye of the Storm

Went out in the eye to help move neighbour's roof truss. Female aged 64
We had two turkeys outside in the same cage. So Dad, Ben and I all went out in the middle of the cyclone, I grabbed the chooks and Ben grabbed the turkeys while Dad held down the cage...Emmalene Krause

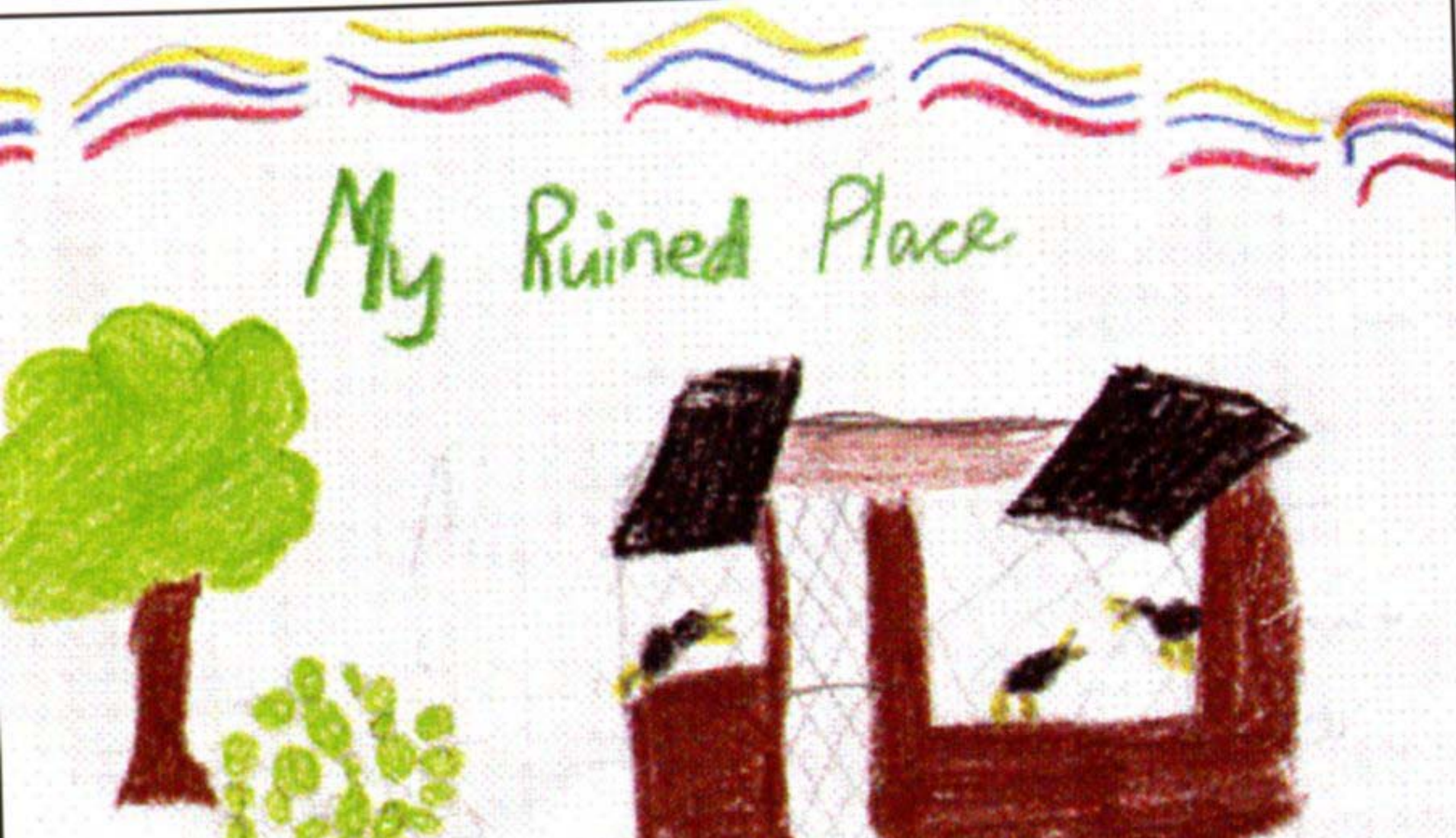




How People Acted on Their Feelings Following the Cyclone Warning

| Acted on Feeling | Number | Percent |
|-----------------------------------|--------|---------|
| Increased preparations & activity | 73 | 50% |
| No action | 29 | 20% |
| Stay calm/don't scare others | 29 | 20% |
| Confused | 3 | 2% |
| Evacuated | 6 | 4% |
| Listen to warnings | 2 | 1% |
| Upset | 3 | 2% |
| Total | 145 | 100.0% |

Daughter had panic attack, had to comfort her. Thought we were all going to die. Male aged 30
Terrified, but thankful. Female aged 30



When I saw the high school in a big heap I felt angry with Larry. Gurpreeth We were all in Cairns when we heard about the cyclone. I felt nervous but excited as we headed for home. In the morning it hit, and I was scared. I came down from the top bunk and sat with my dog, Whiz, because she went a bit crazy. Ian Clegg



Community and Personal Impact

Lost everything. Financial trauma. Kids are quiet. Male aged 43

Job uncertainty, no security, homeless. Male aged 50

Mum started crying because we had photos and lots of things that were being destroyed by the wind and the rain. Lauren Brennan
People lost their jobs because the fields were wrecked. Mum lost a few weeks of work. Ian Clegg



Clear up, Lessons and Recovery

Neighbours helped out – brought bread and extra supplies. Felt isolated from authorities because English is a problem.

Female aged 81

Chainsaw in hand, standing shoulder to shoulder with our neighbours, we surveyed the damage. Then we set to work. Elise Lawrence

I helped remove branches by dragging them on the four wheeler to the burning pile we had made. Jack Dorney
We had so much to do it took us a month to repair most of Larry's destruction.
Conor Johnson

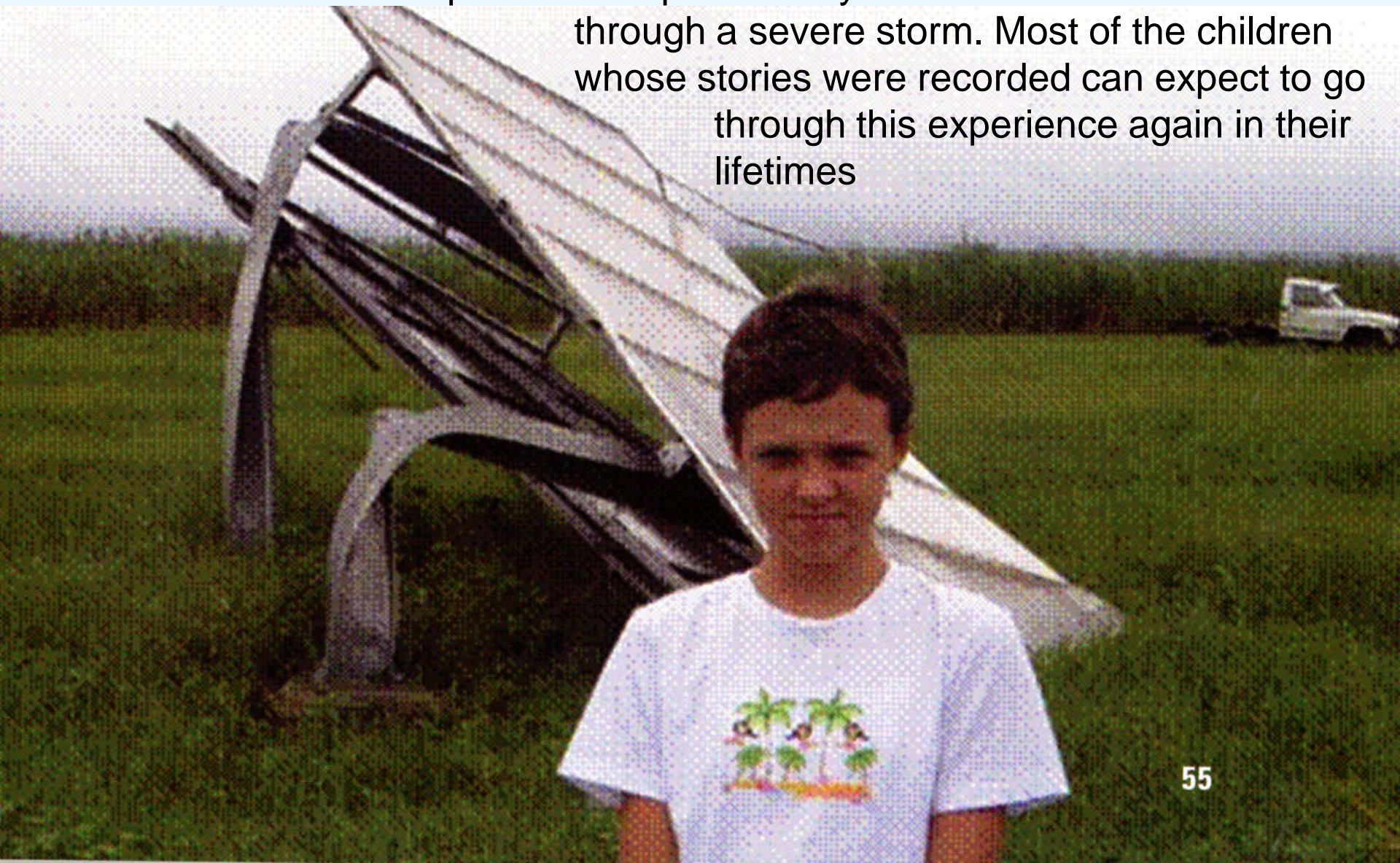
Jim O'Sullivan 11yrs, Ravenshoe



Patterns of Shared Experience - phases to each cyclone

Both adults and children reflected on their fortune in surviving as well as the trauma of their losses

Most of the adults had experienced a previous cyclone and most had been through a severe storm. Most of the children whose stories were recorded can expect to go through this experience again in their lifetimes



Demonstrated need for enhancing cyclone and hazard awareness amongst children

Research amongst NQ households targeting cyclone awareness included awareness surveys of school children

Post disaster surveys and studies – children as victims, participants and future knowledge

STORMWATCHERS

A Tropical Cyclone Awareness Education Program for Queensland/WA/NT School Children

Developed by Centre for Disaster Studies with BoM in late 1990s

Originally delivered on CD to schools – since Cyclone Larry redevelopment as an upgraded web based game – sponsored by Qld Health, Qld DES, Qld Education, Departments of Services, Child Safety BoM and JCU Centre for Disaster Studies

STORM WATCHERS



**START
OPTIONS
HELP
EXIT**

SCORE: 0
CASH: \$ 0



MAP



KIT



RADIO



HELP



FACT BOOK



QUIT

STORMWATCHERS

*Hi I'm Liam. Im 11 and have been in two cyclones.
Cyclone Larry was really scary but I was ok.*



Hi my name is Tanya. Im 8 and don't remember the last time we had a cyclone in our town.



Hi I'm Sky. I am on holidays with my family from Melbourne. We don't have tropical cyclones. I am scared.



Hi I'm Anita. Im 16. Every year we get cyclone warnings but they never cross the coast. Dad said its still important that we take them serious.



Hi I'm Tim. I turn 13 next month. Did you know that in America they call cyclones Hurricanes...that's cool.



**Hi I'm stormy.
You should help these kids prepare their homes for a cyclone.**



**HELP
OPTIONS
CREDITS
EXIT**

A Cyclone Awareness game for Children

www.bom.gov.au/storm_watchers_game/

SCORE: 400



Storm watchers has been designed to be accessible to all students in upper primary classes in Queensland schools, irrespective of their level of computer experience and literacy skills. Game scenarios are very easy to work through and children are rewarded and encouraged along the way. Each scenario should be able to be completed in 15-20 minutes. This game is relevant to a range of children in a variety of circumstances and, although it



has been developed based on the demonstrated needs of children in the Cairns community it is applicable to children living in any Queensland (or Northern Australian) cyclone or flood prone community.

Each scenario requires the student to ensure emergency kit items are collected and offers a mini-game as a reward for collecting all the necessary items. Cyclone warning messages are issued hourly and students can plot the track of the cyclone using the given coordinates. Real video footage is included while the storm is passing to help students to understand what they can expect to experience in a cyclone. At this time a quiz is offered as a challenge to test

cyclone and basic geographical knowledge.

Interested students can find more detailed information, relating to the quiz in the fact book.

Students are guided through the game with the help of “Stormy” the cockatoo



SCORE: 900



Objects have to be collected and stored safely.

After preparation actions a video clip appears – sound and vision – illustrating a cyclone or flood



Factbook

Preparing for Cyclones

Categories of Cyclones

Weather words

What is a Cyclone?

Types of clouds

Cyclones vs Tornadoes

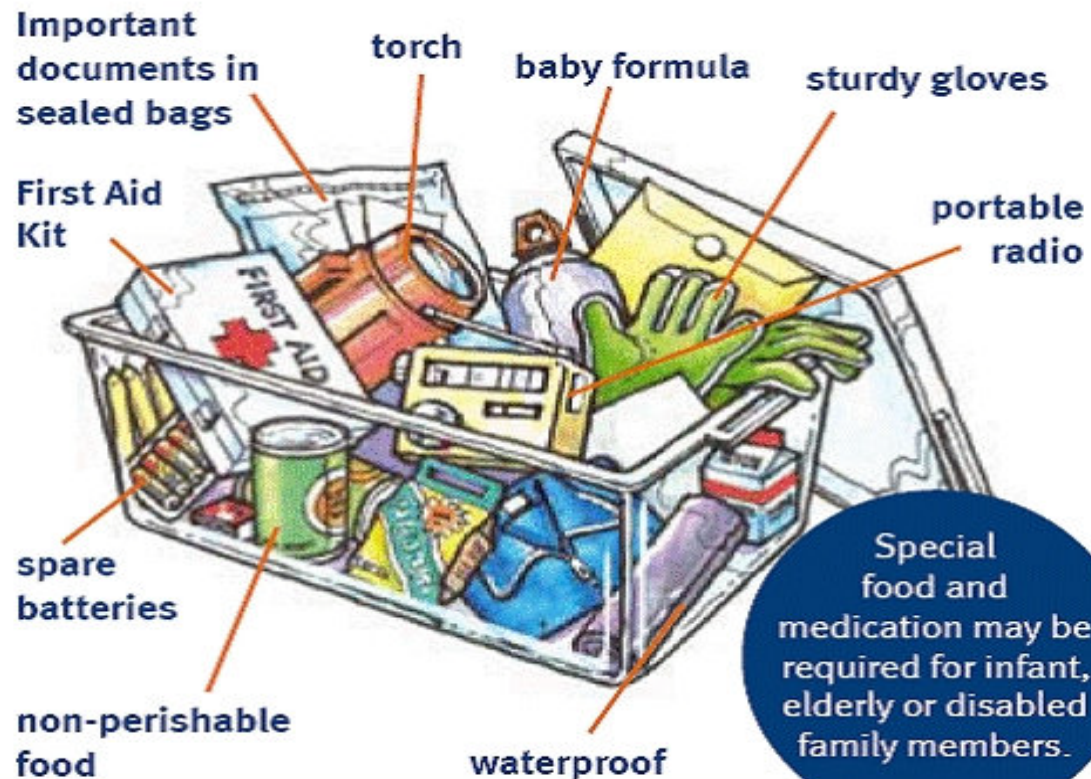
Psychological Impact

Links and Information

OK

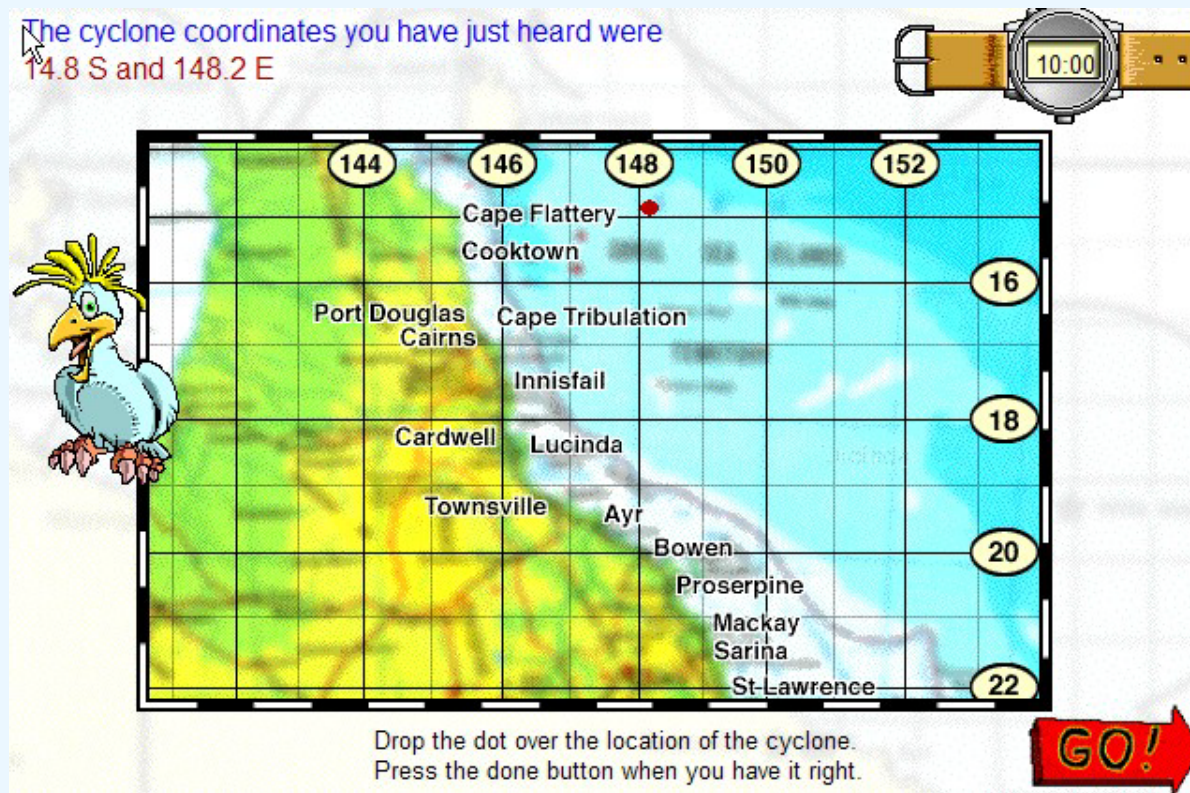
Disaster Kit

Every family should have a fully stocked **Disaster Kit** stored safely in their home. This kit will help you and your family during a disaster. In a tropical cyclone, you may be without water and electricity, or may need to leave your family home.



A fact book – verified by BoM – contains additional information and facts that the child can consult at any stage

A Map screen appears each time a cyclone warning is issued & cyclone is plotted



Stormy. Drop this dot over the location of the cyclone. Click the done button when you think you have it right.

Hold the cursor on the red dot beside the cyclone coordinates, click and hold mouse and move the dot onto the map. Release the mouse and the dot is fixed. Click done.

Stormy. Says either the cyclone is actually here or that's right.
*If wrong a black dot appears where the cyclone actually is.
Click done again to return to the house.*

A satellite image of the Pacific Ocean, showing a tropical cyclone (Tropical Cyclone Larry) over the Gulf of Mexico. The map includes latitude and longitude markings. The text is overlaid on the left side of the image.

Children are participants in disasters and in hazard mitigation and post disaster recovery

Children are the strongest, most direct community members – most do not know other places – the childhood community is a primary place

Lessons learned in childhood are carried for life, but the nature of learning and schooling in childhood lends itself to family and community sharing and broader community education

Stormwatchers is a support tool for learning, but it contains all of the elements of cyclone warning and preparation materials

Other gradual onset hazards can be presented in the same way – floods, bushfires and even earthquakes and volcanoes



Stormwatchers was developed with funding from the Bureau of Meteorology Research Centre to provide cyclone educational materials, and has been redeveloped for the web by a consortium of Queensland Government departments and the BoM – but it is neither state nor hazard specific

Acknowledgements

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