

Final Report



JAMES COOK UNIVERSITY CENTRE FOR DISASTER STUDIES

Effective remote Indigenous risk communication via radio

2009



Figure 1 Remote Indigenous radio operators with new Tyline operator's desk

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Acronyms

| Letters | Stand for |
|--------------|--|
| ACMA | Australian Communications and Media Authority |
| AGD | Attorney General's Department |
| BoM | (Australian) Bureau of Meteorology |
| CDS | Centre for Disaster Studies |
| CBF | Community Broadcasting Foundation |
| EMQ | Emergency Management Queensland |
| DEWHA | |
| DBCDE | Department of Broadband, Communications and Digital Economy |
| DMG | Disaster Management Group |
| IRRRp | Indigenous Remote Radio Replacement program |
| LGDMG | Local Government Disaster Management Group |
| NP | National Parks |
| RIBS | Remote Indigenous Broadcasting Service |
| RIMO | Remote Indigenous Media Organisation |
| SEWS | Standard Emergency Warning Signal |
| TAB | Totaliser Agency Board [radio] |
| TI | Thursday Island |
| TO | Traditional Owners |
| TS | Torres Strait |
| | See Figure 5 (Page 34) for some remote Indigenous radio organisational and funding relationships |

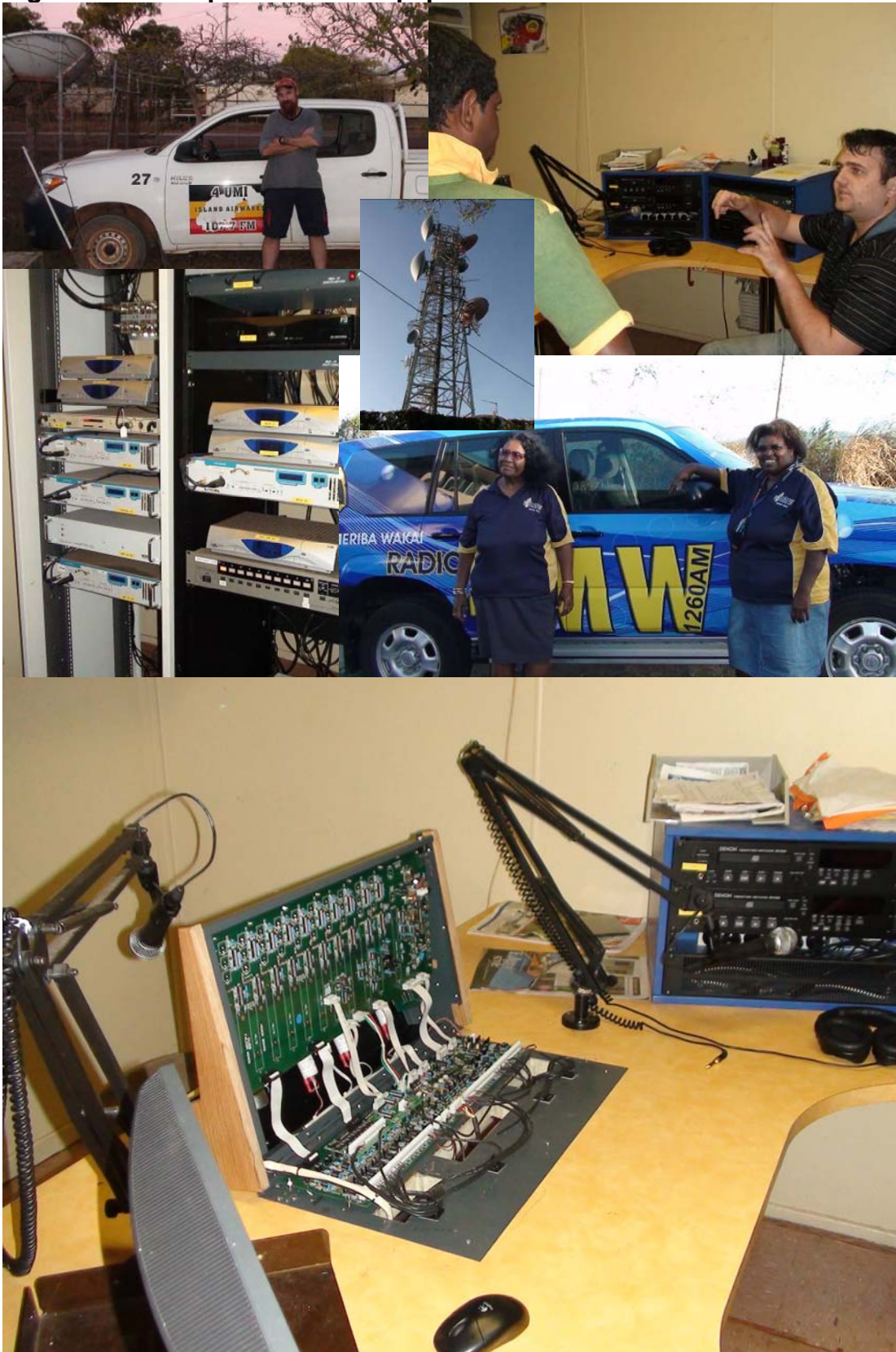
Acknowledgements

On behalf of most of the remote Indigenous radio operators I spoke with, and the communities they serve, I thank BoM, AGD and DEWHA for asking. Members of communities, particularly remote communities, appreciate being asked and listened to. Radio is a core communication and warnings medium, and operators are largely volunteers.

Thanks to JCU which waived project on-costs to support its community and social good goals. Thank you, JCU Research Office. Thanks to A-Professor David King, long-time Director of the Centre for Disaster Studies JCU for doing what he does so well – help positive things happen.

Thanks to the operators and others for their unreserved input and insights, and to the peoples of Thursday Island, including Don Whap, Vic McGrath and David Henslow from the Torres Strait Regional Authority for their time and thoughts. A large thankyou to John Whop and Mavis Bani for the days they gave me to talk with people on Thursday Island. Woho! Finally, the fine edit and comments from DEWHA helped shaped some content.

Figure 2 Radio operators and equipment





JAMES COOK UNIVERSITY CENTRE FOR DISASTER STUDIES

Indigenous radio and effective weather warnings in Northern Queensland

Executive summary

This northern Queensland study aimed to gain feedback on: weather warning courses run by the weather bureau, upgrades to operator desks in remote Indigenous radio studios in northern Queensland and on the terminology of weather warnings. This indicative study found that Bureau training courses in weather warnings for remote broadcaster radio announcers were appreciated, with suggestions they be expanded. The recent upgrades to remote radio transceiver operator desk equipment were greatly appreciated, while the terminology used in warnings targeted to remote Indigenous communities was generally seen as useful and clear, but lots of translating was usually needed.

Following two BoM pilot workshops on *Reading the weather*, radio announcers from remote northern Queensland and Torres Straits communities participated in face-to-face or phone interviews in mid 2009 to get feedback. This study indicates that the workshops were useful or very useful in improving the way warnings were delivered over the radio. The pilot courses were intended to create effective courses. One announcer observed: "We were given the skills but not the practice. There could have been more about our needs - more about the Bureau and warnings, and what you should do." "It was an eye-opener – good to hear direct from BoM people." Longer courses have been asked for, along with refresher courses with more 'hands-on' exercises, and using and sharing community weather knowledge.

Radio operators and community members were interviewed about warning terminologies used and radio equipment upgrades. Results indicate that the words and phrases used are generally seen as good to very good, with some need to further encourage local language use.

Although meteorologists understand air pressure and consequent destructive winds, forecast language should talk about the strength of winds, rather than science words for air pressure: "For a cyclone – what is a hectapascal? We need more plain English." Either operators and listeners learn the meaning of 'hectapascal'; or forecasters inform broadcasters and thus listeners that because of very low pressures, the following levels of destructive winds (and possible storm surge) are likely, and to take the following precautions. This is one of the great divides in *effective risk communication*.

A number of the interviewees make the point that effective warnings should be incorporated into broader news and information during the year, and be included in curriculum on climate change, making that increasingly clear link between climate change and extreme weather.

One TI elder detailed changes in sea creature habits and low-island land losses with increasingly high 'king' tides. Climate change concerns are high in the Torres Strait (TS), which may be a leading edge Australian 'canary in the mine' for low-area coastal dwellers and climate change everywhere.

Because warning faxes often went to Council rather than the radio station, there were sometimes delays in warnings being passed on to radio announcers. This is a systems issue. Some kind of operator pager to a RIBS operator's mobile phone was suggested, alerting them to check the BoM site; that there was a locally relevant warning. Along with the desk upgrades, I was told DEWHA were starting to fund/considering funding web-linked computer screens bolted in front of the microphone, so operators can web-search news and warnings, then read warnings straight from the web site to listeners (*web-to-air*) as the warnings relate to their community¹. This is already operational in two coastal stations.

Knowing the communication systems are becoming more interlinked, some operators saw the potential for communities in one area to 'warn ahead' to other operators if a rapid wind storm was moving through, or a particularly high tide was happening in one part of the coast.

There are problems with operators 'moving on', so training and enthusiasm may be lost. All remote communities have a high turn-over of many management staff. Being volunteers means there may be 'low reward' for the responsible operator's role. There were recurrent suggestions that volunteer operators should, perhaps, be paid.

There is no *one* 'Indigenous community' in northern Queensland. There are many language groups, varying access to independent income/prosperity and different physical realities from hail and wind storms in Woorabinda to king-tide threats in Torres Strait coral quays. Some communities are flood-prone, most are not. Most do not have real re-supply problems of goods after a major weather impact. Operators were appreciative of the BoM training, the upgrades and the language used in warnings. These efforts enjoy operator support, and ongoing communication between all parties was encouraged by participants.

Yours
Douglas Goudie, CDS 25/10/9

¹ DEWHA are clear: they have not funded, nor considering funding this next upgrade. The *belief* that DEHWA were involved was expressed by different, diverse interviewees, underlining that funding sources to some projects are opaque; are hard to identify and thus work with.

Some key quotes

Full confidentiality was assured with radio operators and managers, so quotes and pictures are not ascribed or identified, protecting remote Indigenous radio operator participants. Place identifications are coincidental to the content.

“There should be an early email or other trigger from BoM to the radio stations to have operators look at the BoM web site if there is bad weather coming at the communities.”

“It is like if we were broadcasting in China, we would use Chinese; use a different language. That is how it is for us here. We talk the way the community talks.”

Language is rapidly evolving, so one young ex-operator told me: “It [the flood information] was kinda goss. People talk it around.”

“Messages are reworked into ‘broken-down English.’”

“It is no use to read it out if you don’t understand it. Broadcasters need high translating skills, we need language confidence. We would like to hear more about climate change.”

“BoM web site is used extensively, so we are heading into going straight from the web to reading that information for the area straight out to air.”

“Get radio operators to use the most up-to-date information. That is off the web. Has to start through the news during the year, to get an awareness about bad weather – get it into schools as young kids. Incorporate weather warnings into climate change education. There are things in nature, like rapidly changing sea level that tell us what is going to happen, like: when there is turtle mating, and four types of trees blossom more than usual, it means the monsoons are going to be a lot different from the last monsoon.”

“There are strong links with the National Parks at Carnarvon. It would be useful to have stronger links between Traditional Owners, NPs and RIBS. We need more training and to work closely with RIBS and BoM and National Parks and the Rural Fire Service so there is good communication and weather information sharing.”

We want more skills and sources of information to be used.”

“In remote areas without the right information, it can be life and death.”

“Review the whole Indigenous media industry in Australia. There should be one coherent national set of links. There is a need for funding for content, production and training.”

“I use nature observations and put that on air. TAB radio does weather; so does the Religious Radio from down south. They will say if there is a cyclone or big event coming. On TV there is 7Sunrise, and it has warning ‘crawlers’ all day. The SEWS warning works for listening up about cyclone warnings.”

In the Torres Strait, weather warnings and preparedness ahead of extreme weather impacts include a profound concern over potential oil spills from the intense shipping traffic through the Torres Strait.

Figure 3 April 2007 Weather warnings training attendees, Townsville



Section 1

Improving weather warnings via Indigenous radio



Bureau of Meteorology presentation to Indigenous Radio 4K1G June 2005
<http://www.bom.gov.au/bmrc/clfor/cfstaff/jmb/4K1G.html>

The Australian Bureau of Meteorology, the author and the CDS, JCU have well-developed relationships with Indigenous radio personnel in northern Australia, leading to a pilot workshop “Reading the weather”, organised by Dr Alison Cottrell and the CDS at 4K1Gs' offices, Townsville, in April 2007.

“This project [the first pilot training on weather warnings for Indigenous radio operators] resulted from research across northern *Australia in 2003 by Dr Douglas Goudie, CDS, [reported in] Disruptive weather warnings and weather knowledge in remote Australian Indigenous communities*. It was noted: ... radio announcers were not well trained to understand either the weather maps or the real meaning of the BoM weather reports. They download the BoM information and ‘translate’ it as best they can, but don’t feel all that confident about it. The feeling was that a training session for radio operators to understand the information so they could ‘translate’ the reports into everyday language or even local languages would be very useful (Goudie, 2004, p. 28).”

“This project is about developing, facilitating, and evaluating workshops for radio presenters with the Broadcasting to Remote Aboriginal Communities Services/Remote Indigenous Broadcasting Services (BRACS/RIBS) programs. Presenters will benefit from the workshop by having an opportunity to better understand the BoM weather reports, maps and websites. Presenters will also be able to interpret the

information to provide more meaningful weather reports for their local communities.”

“This project is part of BoM’s community welfare objectives (BoM, 2007) to undertake activities which contribute effectively to the reduction of the social and economic impact of natural disasters and the improvement of the safety of life and property (paraphrased and quoted from: Cottrell and Lowe 2007, P 6).”

Following that two day workshop, a refined one day workshop was held in Cairns in December 2008, only including NQ operators.

”RIBS operators travelled from Mornington Island, Bamaga, Hope Vale/Cooktown, Kowanyama and Wujal Wujal to attend the 3 day QRAMAC Workshop in Cairns which was reported to be a very worth while session with a “hands-on” approach and being relevant or “in touch” with their needs as RIBS operators...”

“The 3rd day provided excellent information on understanding the weather and where to find important weather information especially in the event of an emergency during the cyclone season and tips on where to get up to date information.”

“The RIBS Operators also had an unique opportunity to visit the Bureau of Meteorology in Cairns and got to see first hand the launching of the weather balloon. They got an insight as to how information is collected and forecasted. For those of you who missed out on this workshop, on page 4 is a list of websites that are useful when wanting to gather additional weather information.” (Queensland Remote Aboriginal Media (Aboriginal Corporation) Newsletter Dec 2008, p 1)

Similarly, the Federal Government has been supporting the refinement of language used in warnings, to help people feel motivated to get safe and stay safe ahead of and during a major extreme weather impact. This work is currently progressed by the *Attorney General’s Department* (AGD); Public Affairs Branch.

Acknowledging the importance of maintaining as many communication channels as possible, the Federal Government also continued to fund upgrades to remote radio station equipment, currently through the *Department of the Environment, Water, Heritage and the Arts* (DEWHA); Literature and Indigenous Culture Branch; Indigenous Culture and Content Section. Upgrade funding comes from the Indigenous Remote Radio Replacement program, managed by the Community Broadcasting Foundation.

Decision-makers of BoM, AGD and DEWHA (Principals), through BoM, commissioned this indicative study on the apparent effectiveness of pilot workshops on ‘Reading the weather’; the warnings and language provided to community radio announcers, and the usefulness of the radio station upgrades where they have occurred.

Section 2 Aims and Method

Aim

To conduct a voluntary and confidential survey of remote Indigenous radio operators to help the Principals and others understand how the Indigenous radio network in northern Queensland activates community members through natural disaster threats, and how to improve that process.

Method

After clarifying Principals' needs, available radio operators who had done the BoM courses and were from north Queensland were contacted, and travel organised to meet as many as possible. Community visits also focused on those with radio desk upgrades.

The course organiser from Queensland Remote Aboriginal Media (QRAM)², Cairns, and operators at Wujal Wujal, Cooktown, Mornington Island, TS and Townsville were interviewed in person. Because there were few announcers from northern Queensland who attended the workshops and are still radio announcers, the survey group included current and prior announcers who had attended a BoM, using face-to-face and phone interviews.

Other operators with recent station upgrades were phone-interviewed. Operator interviews were questionnaire-based (Appendix 1) developed with the Principals. With a strict undertaking of confidentiality, individual operators are not identified in this report, even in photographs and any place identification is incidental.

As radio warnings happen in a physical and social context, some other interviews were also conducted, to locate radio warnings in their community context. The 'fieldwork process' is detailed in Appendix 2.

At least three attempts were made to contact all course attendees, unless the person had moved to Brisbane (1); was in hospital (1) or no longer wanted to be involved with RIBS (2).

During early August, four more interviews were carried out by phone, to operators in Hope Vale, Aurukun, Doomadgee and Woorabinda. Three of these stations had recent radio operations desk upgrades.

Each interviewee was sent a draft copy of *what I thought they said*, asking for corrections, deletions or upgrades to the draft record of their interview. Five of the 17 people or groups interviewed responded to this invitation, with few or no changes. All interviewees will be sent a link to the final report via the CDS web site.

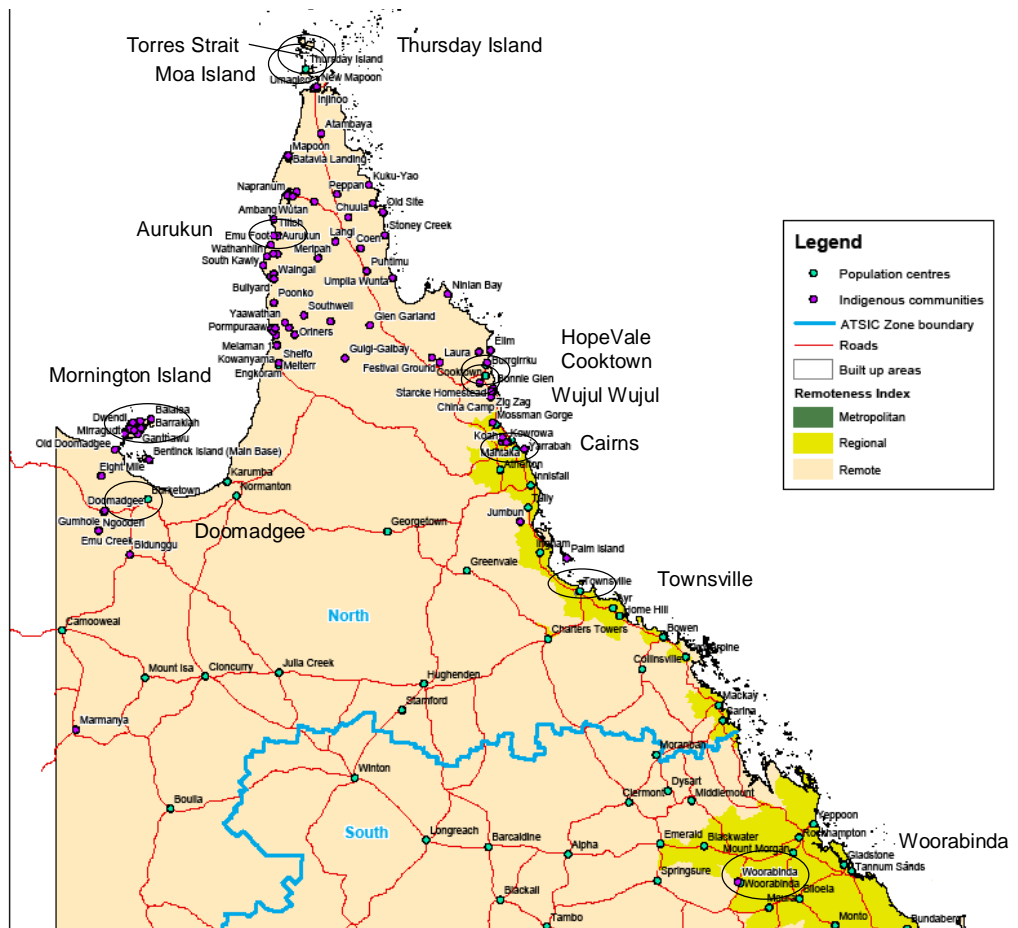
² QRAM's role is to provide coordinated delivery of broadcasting and information to Aboriginal people within the immediate remote and far remote areas of Queensland through supporting Remote Indigenous Broadcasting Services.

Section 3 Results

Thirteen (13) radio operators or groups of operators were interviewed in total, mainly face-to-face. Five auxiliary interviews were conducted. There was a generally high level of interest and co-operation, perhaps born of a good understanding of the important role RIBS plays in community safety.

In total, 11 Indigenous radio operators attended the Townsville sessions (5 from Nth Qld.) and 6 attended the Cairns training (all from Nth Qld). Of the 17 operators who attended either course, only 11 were from Nth Qld. and thus potentially available for interview. Four were not contactable. There were 4 interviewees who attended the three day course in Townsville in April 2007, and 3 from the Cairns 1 day course in late 2008. Of those 7 course-attending operators, only four were still radio announcers. Also, 8 interviewed stations had recent operator desk upgrades (Figure 4).

Figure 4 Map of interviewed remote Indigenous radio station operators



Map developed from

[http://www.ag.gov.au/www/agd/rwpattach.nsf/VAP/\(03995EABC73F94816C2AF4AA2645824B\)~Remoteness+Maps+-+SKM+-+qld_remote1.pdf/\\$file/Remoteness+Maps+-+SKM+-+qld_remote1.pdf](http://www.ag.gov.au/www/agd/rwpattach.nsf/VAP/(03995EABC73F94816C2AF4AA2645824B)~Remoteness+Maps+-+SKM+-+qld_remote1.pdf/$file/Remoteness+Maps+-+SKM+-+qld_remote1.pdf)

4K1G input is important as the other stations largely ‘stream’ 4K1G broadcasts. For example, Wujal Wujal uses 16 hours per week of local [live] broadcast. Most of the remainder is sourced from 4K1G.

Phone interviews were conducted in early August with announcers from Hope Vale, Aurukun, Doomadgee and Woorabinda (Figure 4).

Results generally follow the questionnaire sequence, but Table 1 gives grouped results to *Yes/No* questions. Table 1 shows that weather information is almost universally used as a pre wet/cyclone season *prompt* for communities to tidy up, although some broadcasters described their communities as ‘slack’. Re-supply of food and other goods, nor evacuations are an issue for half the communities.

Nearly all operators are trusted, but are not necessarily seen as ‘expert’. The weather warning information and words used are generally well appreciated and work well.

Table 1
Announcer’s feedback on weather warnings, preparedness and content

| Radio warnings questions | Response | | Comment |
|---|----------|----|--|
| | Yes | No | |
| Is weather information used for: <i>pre-wet/cyclone season preparations</i> | 12 | 1 | New broadcaster |
| planning for re-supply? | 6 | 5 | Many communities, such as the island communities, do not have major re-supply problems |
| planning for evacuations? | 3 | 7 | Most communities are not vulnerable to storm surge, destructive fire or flood |
| Do you get community feedback? | 4 | 7 | Seen like most other community members |
| As a radio operator, are you a trusted information source? | 11 | 1 | High trust levels |
| Do you get information from government? | 9 | 2 | Some saw the SES as separate from Government |
| Is the information you get clear? | 11 | 1 | A good outcome. |
| Are weather warnings words used good ¹ ? | 11 | 3 | A good outcome. |

1. Interviewees said warning words used were: very poor [0]; poor [0]; not much use [0]; of some use, but not quite ‘good’ [3]; good [8]; very good [3].

The following are extracts and occasional paraphrasing of responses. A full record is available from Douglas.Goudie@jcu.edu.au .

Results: BoM training program for radio announcers.

What were the strengths and weaknesses of the training program?

“It used ‘Big people’ words. The course helped a lot. Learned a lot about the weather.”

Strengths

“They taught in a way that was understandable, and backed it up with a visit to the Met. Lab. Resources like the cyclone tracking map helped me get involved. Learned a lot about the Bureau web site, especially about the Indigenous Weather Knowledge (IWK)³. We talked about different knowledge from different regions, and the way we disseminated the information to our listeners. We talked especially about using the traditional weather knowledge.”

Weaknesses

“It was too short – it would be good to have more from the Cape. It was a bit rushed. Could have been more reiterations and more hands-on. Might need to be longer – practice doing the broadcast from scratch: getting the information, right though to working out what to say on-air. We were given the skills but not the practice. Could have been more about our need - more about the Bureau and warnings, and what you should do. The workshop was really good. It was informative and made community broadcasters feel at ease to ask questions and speak with JCU and BoM staff easily. It was fine.

The workshop was seen as useful to very useful in improving the way warnings were delivered over the radio.”

What do you remember about what was presented?

“IWK link. Airport visit [BoM weather station in Townsville, Fig 3] – interesting. Need to know the weather warnings. Was an eye-opener – good to hear direct from BoM people. Took notes on the bad weather. Make sure you keep reading out the weather. Doing a presentation about where we were from. We went on the internet to find any news.

What BoM does, history, relationship with shipping and air transport, trip to lab, collection methods. Weather charts, explaining words used, tour of Townsville BoM, role of BoM, role of CDS, JCU. Learning to read the weather maps; the synoptic charts.”

How easy was it to understand then?

“For some easy, for some a bit hard. Being in groups helped. Some words were hard.”

³ Quotes are usually grouped by topic heading to blur the identity of particular interviewees. The breaks indicate different responses. In the final report stages, quotes are given individually for emphasis.

How do you use the workshop information now?

“Put workshop maps on the studio wall. That helps. Remember a lot. Read the weather bulletins. Easier to understand forecasts. Use the BoM web site now. Break down my weather reading a bit more: more confidence. Still use it.”

How could ongoing training programs about weather warnings be improved?

“More on IWK, more information sharing – have 4 days [x 2]. Have more people. Get information about how they read the weather from people from other communities. Small sessions, say for 2 hours, spread over a few months. It might have to be over the internet. Regular workshops with community broadcasters [x2]. Get young announcers to come as well. Have a refresher after 6 months with the same people.”

This ends the announcer training questions. The next sections were answered by all respondents.

Are there ways of upgrading announcers’ ability to clearly speak about weather risks and ways to get safe and stay safe?

“Get weather information from the BoM site and from old people. Council should give us information straight away. We do not have a web-linked computer yet. Go on radio a lot. Or hand out pamphlets – work as a group to warn people. Concentrate on teaching and having practical sessions putting together and delivering weather warnings. Practice off-air more often, so the words on weather don’t sound foreign. Advise calmness, especially for announcers. Don’t be over emotional, or you may scare community members. Training in the appropriate language. We don’t want to spread alarm.”

Results: community management

Is the weather information used for: planning in the pre-cyclone season Y=12, N=1.

Comments: “Tidy garden, lock things up, clean yard, and stay with friends on higher ground. People don’t act on the ‘clean-up’ message. Don’t travel out in the boats. ‘Prevention is better than cure’, so get ready before it happens. We lost a metre of coast in early ’09 with the high tides and waves. Stock up and clean up.”

Planning re-supply Y=6, N=5, D/K= 1.

Comments: “Not an issue. Because we are an island, a cyclone will come and go, then the barge will resume. People stock up ahead of cyclone. The weather not wild wild. Food mainly comes by barge from Cairns. People stock up. We have all weather access. The last flood was in 2002.”

Planning evacuation Y=3, N=7.

Comments: “We will use the BoM fax or SES warning of tsunamis. Community all on high ground (x3). Upslope for tsunami. Concern on storm surge. Need to

ask SES. All country in low areas or in cyclone path. People are complacent. Need to get the message out. Not to be complacent, to stock up.”

Do you get feedback or questions from the community about weather threats or safety preparations? Y=4, N=7.

“SES are on top of it. Told a lot about erosion of the islands coral quays and Saibai. I keep being told the weather has changed. Yes, especially about cyclones and floods. The tsunami warnings came through a fax for each update. We had to keep checking the fax machine. In future, if no-one is on air or in the office, there is a need for BoM of the SES or the Disaster management group to ring the station manager, whose phone is attended 24/7. Getting the tsunami warnings out did not work too well. Our radio transmission signal only works for about 5 Km.”

Who asks you for information and what do they want to know?

“All ages. When are the updates? People ring in about high tides, to tell others or to warn about ‘flooding’ [sea water coming in over lower land] on a high tide. Family and friends about peak events.”

Are you, as a radio operator, seen as a 'trusted source' of information Y=8, N=1.

“Very much so. Media use is low-level weather information source here, we use our own knowledge. We use blackfalla ways, and people do listen to the radio.”

Results: language used to properly motivate people to prepare

Table 2 Views on warning words used

| Words used are: | Very poor | Poor | Not much use | Of some use | Good | Very good |
|-------------------|-----------|------|--------------|-------------|------|-----------|
| Number who agreed | 0 | 0 | 0 | 3 | 8 | 3 |

Comment on warning words used

“Use Creole. Majority of people sort of translate it and pass it around. Plain, very simple English always the best. Plain, short messages. Use simple language. Read as written. Should put more detail, especially for around here.

At the radio station we are trained to speak Creole. We read warnings in Creole and English. We may use some ‘language’ words too, like ‘Sager’ is the SE winds, ‘kooki’, the NW winds. There are many language words for the different winds.

Cyclone – what is a hectapascal? We need more plain English.

We record weather warnings after we translate them into Basic English. Those recordings are then played every hour. We use language names for local places, and we record the messages in the way we talk. It is like if we were

broadcasting in China, we would use Chinese; use a different language. That is how it is for us here. We talk the way the community talks. We use the local language. We may get violent storms or hail storms, not much else.”

Apart from information you get from the Weather Bureau, do you also get information from your local government or from the state Government?

Yes = 9; No = 2. See Table 1, p13 for a summary of all yes/no responses.

“Shire downloads BoM warnings. We read it out. We put it in our own words. Council is supposed to pass it on but often doesn’t. We get information from both the federal and state members of parliament offices. We translate. SES information is put to air. We use their media releases. Travellers report as well. Roads being cut is important.”

If so, What information do you get from your local government or the state government?

“SES – progress in rescues. Families depend on the weather, so as a boating community, we take a lot of notice. SES (x 4⁴) and Council (x 4) act together. Local creeks and rivers being cut. Bloomfield crossing goes under. Council will ‘use’ the radio to get messages out, and have done on any issue. Severe storms from SES – email. Used as community announcements. ERGON [Power company] gives information on storms and power lines.

We get media releases from the Torres Strait Regional Authority and the Disaster Management Group and read them on air. We get different people on air, like the water police will say not to take boats out on the water. Many will give different interviews, including the DMG talking about plans and contingencies. This happens on ABC radio as well.

Police and SES. Council fax planning for flood and cyclone seasons before, during and after; like pick up rubbish after a cyclone. They give us community service links. We get advice on what actions to take, and a sense of the timing of the event. We get awareness and contacts not reliant on electricity for outside communications. We may need to send SES people into Aurukun if the impact has not happened yet. Aurukun has not been hit by a cyclone. The state is as dead as a door-nail. The SES give good information.”

⁴ (x4) means that 4 respondents said this.

Is the information you get clear? - Yes =11; No=1.

Does it need to be reworked so it makes sense to your audience?

“Read out the same as it is written (x 3). We do sit down sometimes and write it out again before we read it out. Took down notes from TV and then read them on air. Get weather report downloads from friend’s mobile internet access (Bigpond) and use that. It goes through the way it came. Yes, so they know. “In broken-down English”. Make sure it goes through clear. Rework a bit (x 2). Information from ERGON needs to be reworded. All the media releases are translated by the announcers into Creole. Clear to me, but then it is up to me to get it across to our listeners. We translate into local language group. We have one shared local language.”

How can the information received be improved?

“Happy as is. Speaking clearly (X2). By working and doing training. Link radio stations to the information sources, via the web. Get Indigenous person to reword it and read it out. Same with SES warnings. There should be an early email or other trigger from BoM to the radio stations to have them look at the BoM web site if there is bad weather coming at the communities.

Every-one connects up by email. We are given sufficient information. The individual broadcaster has to put it across. It is no use to read it out if you don’t understand it. Broadcasters need high translating skills, we need language confidence. We would like to hear more about climate change. Islanders need information and training, perhaps through TAFE, about how the community can look after our islands with global warming.

Live interviews, good to hear direct. Like to have spokespersons on air, so it would be good if they were more available. We always speak to BoM in Townsville ahead of the cyclone season and cyclones.

Having people available to speak: during the Ingham floods this year, there was no spokesperson available from SES or Council. Eventually we had to rely on a knowledgeable community member to be able to tell listeners what was going on in the Ingham area. Each community is different. A good language use model comes from the Dept. of Health, with information in Torres Strait, Aboriginal Language and Plain English. It could be put on simple forms so it is easy to see how to put it into local language. It is pretty good.”

Results: operating desk upgrades

From Shane⁵ – technician making the upgrades (Auxiliary interview).

“We are installing new systems, or upgrading existing systems. We are putting the same user friendly desks and announcer operating equipment across the entire Indigenous radio network in far Northern Queensland.

The desks allow operators to switch between incoming signals from either the ‘4K1G network’ or from the National Indigenous radio network. They can then easily switch between those two sources or go live from their own studio – pre-recorded or microphone.

The next intended stage of modernising the network is to provide broadband access to a computer screen in front of the microphone, specifically for announcers to web-access news and BoM information directly from the web, and chose which information will be of most use or interest to their own communities, then read that out or summarise it for their listeners.

A further advantage of the next phase of bringing the RIBS network to the forefront of linked radio access is that operators will be able to easily listen and switch between the many remote operators, so, for instance, a broadcast hour from Palm Island may be of interest to the announcer/community on Mornington Island, so the Mornington Island announcer will be able to ‘stream’ the Palm Island program live to Mornington Island listeners.

This current upgrade is providing a much clearer signal than the old links and desk, between stations. This system uses “Tyeline’ [brand name], and it is just for radio signal linkage; not the internet. It will rely on wire/optic fibre and line-of-sight microwave communication tower links – not satellite. Some communities report those satellite signals are weak or broken during storm, especially electrical storms. This is an issue during poor weather, which may precede or include destructive weather.

The intended web-link phase will be internet based – plugging into Telstra outlets, hopefully ADSL (broadband) standard.”

⁵ Names are used for non-operator interviewees, as anonymity is not relevant to the content.

Operators of upgraded systems

Interviews were held with 8 operators with major desk upgrades:

“Desk operations now very professional, with a flow of other networks on and off air. It is now much easier to go from local and regional to national. We are more likely to get volunteers. Clarity of the signal. Covers the town. It is good with the new desk – it is very simple to use (x 4). The upgrade to the signal strength is coming.”

Are there further ways you feel the broadcast technology could be improved?

“Stronger signal. Internet access – could read BoM. Will be able to access the web screen from the microphone. Automatic notice of warning upgrades – automated notification.

The different government departments can sort themselves out. There are so many Indigenous media bodies, from Department of Communities, DEWHA, Broadband... there is the IBP – Indigenous Broadcast Program, the IRRR. It would be good to house Indigenous media into one Statutory Body, linked directly to NIBS and RIBS. I am on the boards of five different IB groups.

Get operators. Hard to get people funding for the position. The only offer is part-time. Can only offer 22 hours per week; then there is the Council on-costs. We want funds for a TV production studio. We want another production studio, and we need a landline to feed into the Tyeline desk unit. This community wants to work into broad digital production. We are frustrated as we feel DEWHA is not listening." [In feedback to the interim draft of this report to the Principals, DEWHA made clear DBCDE is responsible for broadband.]

Results: general

Where did you get your main information about the floods or other major weather? (#1= the first identified information source; 2 = the second identified source ...)

Table 3 shows BoM is the main announcer weather information source, followed by Council/SES/Disaster Management group. TV and other radio stations are a significant source, while own or local knowledge is also used. In a few cases, newspapers act as an alert to dangerous weather.

Table 3 Main weather information sources

| Source | Level of primary information across communities |
|-----------------------|---|
| TV | 1, 1, 1, 2, 3, weather channel 1 |
| BoM | 2, 1, 1, 1,1, 4, 1, 2 |
| SES/Shire Council/DMG | 1, 1, 1, 2, 3, 2, 2 |
| Own knowledge | 3, 3, 4 |
| Radio | 2, 2, 2, 2, 1, 1 |
| Which station | Pulse in Cooktown. ABC (Cairns) in Wujal Wujal, and in Torres Strait. 4K1G, 4MW (TI). ABCx2 |
| Employer | 0 |
| Other people | 1, 2, 2, 2 |
| Other | Newspaper 1, 3. 3 Other web sites 1. |

(#1= the first identified information source; 2 = the second identified source ...).
DMG = Disaster Management Group.

Comments: “BoM web site used extensively, so we are heading into going straight from the web to reading that information for the Mornington area straight out to air. I use nature observations and put that on air. TAB radio does weather; so does the Religious Radio from down south. They will say if there is a cyclone or big event coming. On TV there is 7Sunrise, and it has warning ‘crawlers’ all day. The SEWS warning works for listening up about cyclone warnings.

Focus on complacency. Some believe complacency can be a virtue; that ‘it’ is not going to happen to them. We need to get the message across, so people will make some action on it. We could make ads where people lost their lives – ads that shock. Use the old fellas. EMQ emails police and other on-ground state Dept. of Communities within Aurukun. There is a good cyclone awareness and preparedness. We would ensure we are well-stocked. There are about 1200 people here. We have a well-aware community with measures in place. We hope to all survive. There is very little possibility of a flood in Aurukun.”

Ways to improve warnings

“Have access to the authority to use SEWS locally. All good. We announce public notices from the Council for all purposes. Do a pretty good job (x 2).

Get radio operators to use the most up-to-date information. That is off the web. Has to start through the news during the year, to get an awareness about bad weather – get it into schools as young kids.

Incorporate weather warnings into climate change education. There are things in nature, like rapidly changing sea level that tell us what is going to happen, like: when there is turtle mating, and four types of trees blossom more than usual, it means the monsoons are going to be a lot different from the last monsoon. Keep working on all areas.

There is no training for operators. New desk, no operator training. There is little streaming from other stations yet; nearly all comes from 4K1G.

Use communication between all peoples, and all Remote Indigenous Media Organisations. Many organisations need to communicate and share more traditional knowledge.

RIBS not operating because it is too hard to get operators, but we are getting operational. We have local government funding for operators, and can get funds through Queensland Government grants office. There are strong links with the National Parks at Carnarvon. It would be useful to have stronger links between Traditional Owners, NPs and RIBS. We need more training and to work closely with RIBS and BoM and National Parks and the Rural Fire Service so there is good communication and weather information sharing. There needs to be a pilot program of having people from these different groups learning to work their information together, to communicate about warnings and what to do, so if there is a hail storm blowing through, the different groups can communicate ahead of the threat and work in with RIBS to spread the warnings and what to do. All this can be linked with employment programs. Get warnings earlier.

We need wages for broadcasters. Radio journalism never stops. We want a visit from DEWHA. We need funding for a radio upgrade and TV production.” [See Figure 5 and comments, and enduser recommendation 6. The organisational and funding complexities to support strong remote Indigenous media, even for seasoned operators, is an unexpected outcome of this study]

Other comments:

“Being appropriately equipped in providing the right information to the community as a community service provider is important. We want more skills and sources of information to be used. Well worthwhile teaching people how to do this stuff. Remote radio stations would hold more people if there was some payment to announcers. There will be a high turnover with volunteers. If you invest all this money in training, you want to hold on to people. Sharing feedback about the weather with listeners is good. With the course, you have to gamble on people staying on. In Indigenous communities [and most remote shires in general] there is a high turn-over in all jobs, from Shire Clerks down.

It would be good if the weather bureau give as early notice as possible. The warning time is good for cyclones, but need early signal for strong winds, using an email or fax from BoM to radio stations to look at the BoM web site. Review the whole Indigenous media industry in Australia. There should be one coherent national set of links. There is a need for funding for content, production and training. In remote areas without the right information, it can be life and death.”

Results: four auxiliary interviews**1. QRAM Manager**

Candice has worked in remote Indigenous communities for about 8 years, and has been manager of Qld. Remote Aboriginal Media (Aboriginal Corporation - QRAM) for about a year and organised the Cairns one day BoM workshop.

Candice felt the introduction to the BoM web site was useful. The contact between the different operators and site visit to the Cairns bureau were good. Participants felt they were information-starved during the threat period. Candice viewed the workshop, from the participant level of feedback, as very useful, and easily understood information.

Workshops could be held more often and include sessions on information sharing between BoM and operators. With this two-way information, BoM staff could improve their information delivery. Teleconferences before the wet/cyclone season could be held with RIBS operators, to keep the workshop experience ‘live’.

Projects with RIBS operators could help produce announcements in their own language – hands-on helping to craft a local warning from an ‘official’ warning. Prompts could be provided to have sequences of radio discussions about threats and preparations leading into the cyclone/flood season.

Candice reported that there were problems when satellite signals were cut off by clouds. She views land-lines as secure.

Candice on the new AGD booklet: *Emergency Warning - Choosing your words* (AGD 2008)

“In reviewing this guide it was clear that a lot of thought was put into creating the booklet. It would be beneficial if Indigenous RIBS operators could be supplied with a copy of this booklet in conjunction with a brief consultation/training session. This would ensure that RIBS operators read the material (rather than just flicking through it), to ensure they understand the purpose, information supplied and allow them to ask any questions to assist them in gaining the full benefit of the guide.

Other ways of upgrading our ability to clearly speak about weather risks and ways to get safe and stay safe.

- 1) Allow Operators to become more involved from the on-set. By creating funded projects that would engage RIBS Operators to produce and record audio weather/safety messages in their own language and for their own community. Giving the RIBS more ownership and pride in/of the contents. Opposed to a disc being sent to them that may not get as much air time or promoted as vigorously as their own locally produced content.

- 2) It has been reported that community residents will take more notice of messages spoken in their own language which are specifically targeted for them. Each remote Indigenous community, even those which are only a couple of hundred kilometres away from each other, have their own individual dialects. RIBS Broadcasters would be able to translate important educational weather messages/warning in simpler terms to ensure crucial messages are not lost by using metrological terminology that community members may not understand.

- 3) Deliver more workshops/training sessions to educate RIBS Operators regarding weather warnings, how to interpret and broadcast important messages and most importantly where to find crucial up to date messages during an emergency.

RIBS are crucial during emergencies, more than likely, due to power interruptions/failure, radio broadcasts cease during crucial events. It would be beneficial to investigate if compulsory installations of power generators to each RIBS could be funded and implemented. The funding that the individual RIBS received under the IBP is very minimal (approx \$15K per annum) and would not stretch to include the purchase/installation and operational costs of a generator.”

2. Senior Project Officer Tagai State College Language and culture program - Languages through the Torres Strait

Dana reports that there is one administration centre and 17 campuses across the islands. The school is embarking on a program to re-introduce 'language' to school children.

The mixed use of English, Creole or 'first language' across the Islands is varied. For weather warnings, this is important, as many islands speak little English.

There are two language groups: *Kala Lagaw Ya* with 4 dialects and *Meriam Mer* with 2 dialects. Effective, targetted weather warnings may need to be in local language for particular islands, but certainly in both English and Creole.

Dana felt that the greater the threat (say, a Category 3+ cyclone or significant storm surge), the greater the need to broadcast in all 6 dialects. Dana reports that the local TI radio station, 4MW is listened to extensively across the islands. He also sees that if a threat is notified to the school, it can use its networks to warn both children and parents on the islands. He reports there are SES units in all communities, but may be more or less resourced and active.

When he lived on low-lying Saibai, the response to the 2008 tsunami threat 'was not well co-ordinated'. Some people moved to higher ground, some did not. Dana reported that there are community police on every occupied island, so there would be standing arrangements to get warnings out to all the communities.

He strongly believes that radio warning in 'language' would be good.

3. Meeting with Torres Strait Regional Authority

There are now ongoing studies on storm surge and king tides in the Straits. Actual tide gauges recently installed show that the long-used tide height models were not accurate. There is real concern in Torres Strait about the apparent early effects of climate change on sea levels, especially around the monsoonal king tides.

The Land and Sea Unit is developing a Ranger network for the Islands, which will serve as 'eyes and ears' for this most northern part of Australia, and will help record changes which may show early physical evidence of climate change in Australia. The Rangers will also help with getting weather warnings out.

At the meeting, a model was suggested for weather warnings where the Straits 'mens' and 'womens' groups – both with peak representatives participating in the meeting, would combine with Ranger input to feed locally observed information back to 4MW for broadcast as 'on-ground' early warning of events like unusually high tides/surges. As TS sits at the confluence of two major seas: the Coral and Arafura, the sea level and strong sea currents are highly variable.

Auxiliary safety issues include a profound local concern over potential oil spills from the intense shipping traffic through the Straits.

On October 10, David Hanslow, TSRA sent the following: "...for Torres Strait communities notification/warning of king tide periods would be useful.

Several communities are subject to inundation irrespective of weather conditions at the time- thus notification/warning would be useful. These notifications/warnings could be supplemented with additional information if adverse weather conditions are expected to elevate water levels compared to predicted tides- (some indication of the extent of superelevation could be obtained from the AMSA tide gauges for which measured and predicted tides are available via the BOM site)."

4. Interview with traditional elder

Daynee reports: there are many changes on land and sea of my island, a coral quay, in recent years, in the Torres Strait. Where we have traditionally gathered my favourite shellfish, there are now none. From the place where my mother first took me, those shellfish have moved to another place, where we also gather another type of shell fish. My favourite type did not used to be there.

In another place there used to only be the dead shells of another type of shellfish, but no live ones. In the past couple of years, there have been less and less dead shells. Just in the last year or two, there are now live shellfish of this type, where we would never find them before. These things are all changing from how they have been from generations back.

We have seen migrating dolphin, but there is no memory from my people about dolphin being in our waters. Also, whale sighting were very rare, but now they are becoming common.

Our Island is a low coral quay. We worry about the high tides in the monsoon season. In recent years, the king tides come in and go right over the boat ramp. That never used to happen. Now at the king tides the red triangle on the pole is in the water, so only the triangle can be seen. There are photographs of people hanging on the triangle. The king tides are eating away parts of our coast, and we are worried.

[This interview with Daynee was included because the weather is just the daily expression of the climate. The 'intellectual' concern over climate change is made real in the Torres Strait, where people are seeing – perhaps because it is in the meeting place of two major oceans – what appears to be real evidence in Australia of the leading edge effects of climate change. If the focus of this report is on *effective weather warnings*, perhaps readers can also consider this much larger 'slow-motion' issue of climate change warnings. If this warning is effective, then, like major weather warnings, those at risk (all of us) will 'listen up,

understand the threat is coming to 'me', and act to maximise safety' (Seven Steps to Community Safety, following). If the implication of climate change evidence is true, it may deserve national attention, not as the 'canary in the mine', but as the 'vulnerable Australian islands'].

Section 4 Discussion

The course

“Remote radio stations would hold more people if there was some payment to announcers. There will be a high turnover with volunteers. If you invest all this money in training, you want to hold on to people.”

“Resources like the cyclone tracking map helped me get involved. Learned a lot about the Bureau web site, especially about the Indigenous Weather Knowledge. We talked about different knowledge from different regions, and the way we disseminated the information to our listeners. We talked especially about using the traditional weather knowledge.”

The pilot courses were appreciated. More hands-on and more time to ‘practice’ the process of understanding and ‘translating’ to local conditions and listeners was asked for. Putting up training *on the web* was suggested, along with refresher courses. Because there are large logistics costs in bringing operators to one place, there may be merit in having regional bureau staff travel to Operators and spend ‘hands-on’ time in developing local and effective weather warnings.

Desk upgrades

“Desk operations now very professional, with a flow of other networks on and off air. It is now much easier to go from local and regional to national. We are more likely to get volunteers. Clarity of the signal. Covers the town. It is good with the new desk – it is very simple to use (x 4). The upgrade to the signal strength is coming.”

There is no doubt that from Moa Island, TS to Wujul Wujal, Daintree area, the upgrades are well appreciated, although some observed that there was sometimes no matching desk training. With coverage of sometimes only 5 Km, the upgrade to landline and microwave signal-in is anticipated with enthusiasm. With a stronger signal out, there is the real opportunity for a wider warnings audience.

As seen at the introduction, 4K1G – the prominent and dominant North Queensland hub and main broadcast source for almost all RIBS - was the first national broadcaster to receive an award from a national weather bureau for effective risk communication ahead of and through a major weather threat (in 2005). 4K1G is listened to by many, and the warnings can be localised and acted on for *all* listeners in a given, expanded broadcast area. Continuing with the upgrade strategy is encouraged, including the placement of web-linked screens in front of microphones, the *web-to-air* model which removes intermediate parties, and provides ‘*direct-from-information-sources*’ detail and local information relevant to threatened or potential threatened listeners.

Language used

“Print out the BoM site from Torres Strait to Cooktown, and read the forecast off the web. Read the weather in English and Creole (Yumplatok). The language use is not even [not the same] across the Islands: TI is mainly Creole and English, the outer islands mainly ‘language’ [traditional] whereas some outer islands only speak Creole. Top Western Islands speak Language and Creole, but little English. ‘Prevention is better than cure’, so get ready before it happens.”

“Majority of people sort of translate it and pass it around.”

“Plain, very simple English always the best.” “Plain, short messages.” “Use simple language.” “Read as written.” “Should put more detail, especially for around here.”

“Cyclone – what is a hectapascal? We need more plain English.”

“We use the local language.”

“It [the flood information] was kinda goss. People talk it around.”

This last quote came from a Cooktown ex-operator – young and in a new language sub-group, with abbreviations and clipped English, so “goss” is understood by her group. The importance of language is best shown in TS, where sometimes English is not an option.

Weeding out any confusing words like ‘in the vicinity of’ instead of ‘near’ is an ongoing task for all. What is a hectapascal as it relates to *my* impending safety? These types of questions and answers need to be the core focus of all risk communication. Although ‘language and content in effective risk communication is detailed elsewhere (Goudie 2004a), at core is that the intended audience needs to understand and internalise the threat message as real to their safety; not necessarily become some-one who can define a ‘hectapascal’.

Helping people get safe and stay safe – effective warnings Infrequent events and – each settlement is different

Place

Some places are cyclone threatened, some are not. This is also true of floods, and even (non-cyclonic) destructive winds. For some places restocking after major flooding is critical, but in most surveyed places, it is not a real concern.

“There was a cyclone in Torres Strait the 1920s. We get the windy season – strong winds in January and February. The weather not wild wild.”

“The last flood was in 2002.”

“We may get violent storms or hail storms, not much else. We often want rain. We don’t get cyclones, and we don’t get damaging floods.”

“There is very little possibility of a flood in Aurukun.”

People

The arrays of people and their language use from operator-described 'Broken-down English' in one community to 'blackfella talk' in another; to very proper English, or no English at all in other places means there is no *one* peoples, no one 'best' warning. Nearly all operators made clear they 'translate'. One suggestion was that warnings be provided in the simplest English on a kind of form, with some suggested translations. This could be adapted from the Attorney General Department's booklet: *'Emergency Warnings- Choosing Your Words'* (AGD 2008).

From three different communities:

"All the media releases are translated by the announcers into Creole."

"Clear to me, but then it is up to me to get it across to our listeners."

"We translate into local language group. We have one shared local language. Each community is different."

Traditional weather reading

"We look at the sky. If hail is coming, there is a green tinge to the edge of the clouds. We watch and use blackfella ways."

"I use nature observations and put that on air."

"Use the old fellas."

"Use communication between all peoples, and all Remote Indigenous Media Organisations. Many organisations need to communicate and share more traditional knowledge."

"Sharing feedback about the weather with listeners is good."

There is great scope for greater community engagement by drawing 'traditional weather readers' (Goudie 2004a) into the orbit of the RIBS network. Along with this sign of cultural respect, there is the credibility and authenticity *in the communities* for traditional weather readers; so people would be more likely to "listen up", as per the generalised warning goals and method in the Seven Steps to Community safety (Goudie 2007 a), where community radio plays a leading-edge role in keeping local people informed of local threats and local safety strategies.

Seven Steps to Community Safety

Maximise safety and recovery, and minimise loss in hazard zones.

1. Encourage those in hazard zones to **accept that the risks are real**.
2. Help create an aware, informed community, predisposed to safety-oriented action, as a precaution; as a practice.
3. Encourage information-sharing and support among friends, neighbours, family.
4. Provide 'what to do' (action) information, via reliable sources, including web and local media delivered for background and preparation.
5. Encourage people to think right through to impact and recovery.
6. When a threat is closing in, warning messages will clearly convey: *this is real, this is coming at me. I need to make safe where I am, or move early to somewhere much safer. I will not travel during the impact period.*
7. Provide timely, effective threat warnings and fine location and forecast weather detail, and recommended local responses.

(Goudie 2007a)

Useful messages

"Prevention is better than cure', so get ready before it happens.'

"Need to get the message out. Not to be complacent, to stock up."

"The tsunami warnings came through a fax for each update. We had to keep checking the fax machine. In future, if no-one is on air or in the office, there is a need for BoM or the SES or the Disaster Management Group to ring the station manager, whose phone is attended 24/7."

"Our radio transmission signal only works for about 5 Km."

"Getting the tsunami warnings out did not work too well."

"Every-one connects up by email."

Announcers are aware of the local threats, and embedded in communities assessed by announcers from 'slack' to 'very prepared' – like all communities. Coastal communities are concerned about tsunamis and global warming, but all have a confidence their community is basically hardy; resilient. An appreciation of the need to engage community members in sharing in the spread of warnings, and the need for preparedness and timely action by announcers is clear from this study. Announcers need and ask for ongoing dialogue and support in keeping themselves and their communities in a state of prepared awareness heading into each impact threat. Email is often used. Mobile phones are often ubiquitous and everywhere.

Section 5 Summary of participant recommendations Improvements/the future

System

1. "It would be good to have a weather station [Davies?] on Moa.
2. There should be an early email or other trigger from BoM to the radio stations to have them look at the BoM web site if there is bad weather coming at the communities.
3. Like to have spokespersons on air, so it would be good if they were more available.
4. Having people available to speak: during the Ingham floods this year, there was no spokesperson available from SES or Council.
5. Each community is different. A good language use model comes from the Dept. of Health, with information in Torres Strait, Aboriginal Language and Plain English. It could be put on simple forms so it is easy to see how to put it into local language. It is pretty good.
6. The different government departments can sort themselves out. There are so many Indigenous media bodies, from Department of Communities, DEWHA, Broadband .. there is the IBP – Indigenous Broadcast Program, the IRRR. It would be good to house Indigenous media into one Statutory Body, linked directly to NIBS and RIBS. I am on the boards of five different IB groups.
7. Can only offer 22 hours per week; then there is the Council on-costs.
8. On TV there is 7Sunrise, and it has warning 'crawlers' all day.
9. EMQ emails police and other on-ground state Dept. of communities within Aurukun. There is a good cyclone awareness and preparedness.
10. New desk, no operator training."

Stations

11. "Link radio stations to the information sources, via the web. Get Indigenous person to reword it and read it out. Same with SES warnings.
12. Have access to the authority to use SEWS locally."

Volunteers

13. "We are more likely to get volunteers [with the upgraded desk].
14. Get operators. Hard to get people funding for the position. The only offer is part-time.
15. RIBS not operating because it is too hard to get operators, but we are getting operational. We have local government funding for operators, and can get funds through Queensland Government grants office.

16. We need wages for broadcasters. Radio journalism never stops. We want a visit from DEWHA.
17. With the course, you have to gamble on people staying on. In Indigenous communities [and most remote shires in general] there is a high turn-over in all jobs, from Shire Clerks down.”

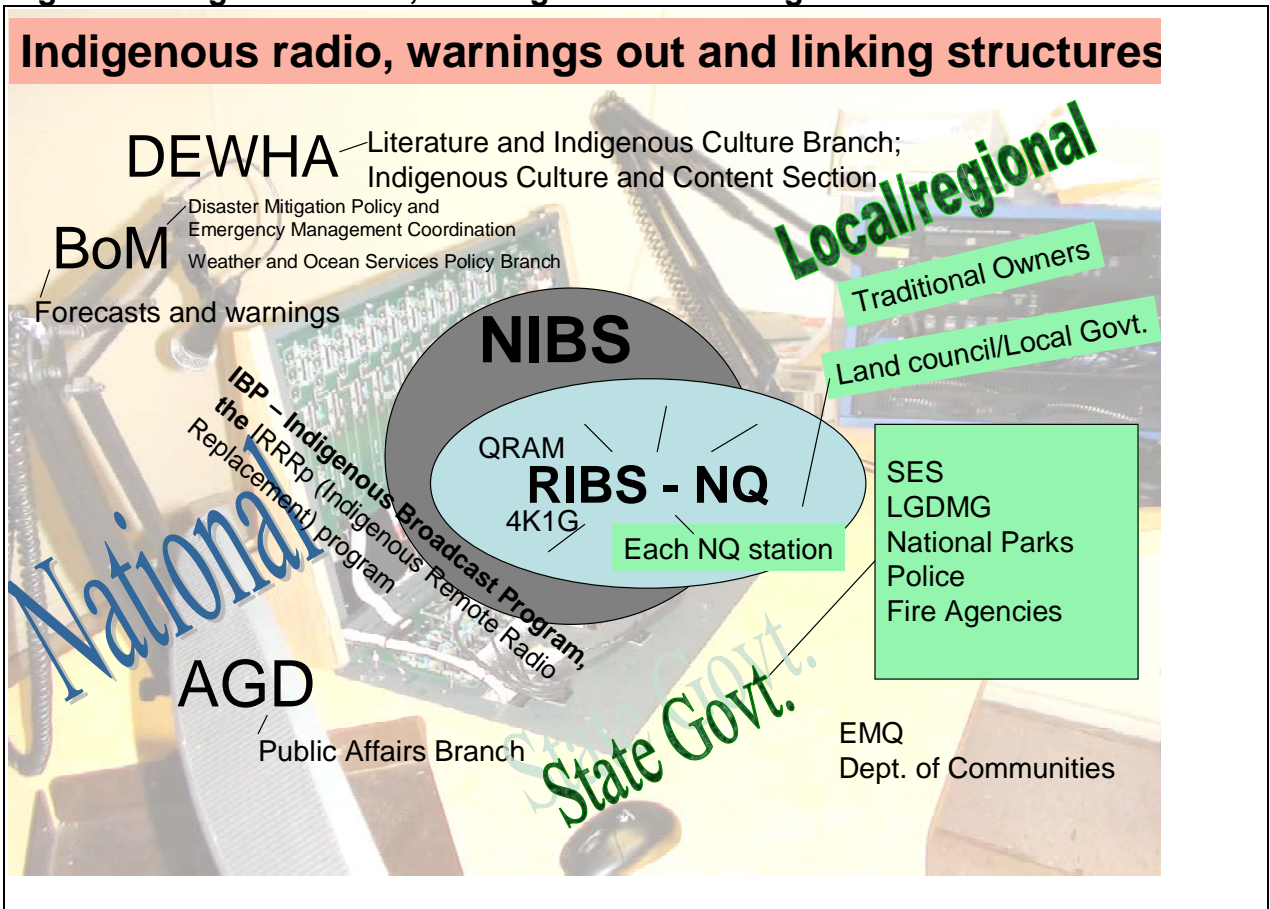
Core issues

18. “Get warnings earlier.
19. It would be good if the weather bureau give as early notice as possible. The warning time is good for cyclones, but need early signal for strong winds, using an email or fax from BoM to radio stations to look at the BoM web site.
20. Review the whole Indigenous media industry in Australia. There should be one coherent national set of links. There is a need for funding for content, production and training. In remote areas without the right information, it can be life and death.
21. The SEWS warning works for listening up about cyclone warnings.
22. Focus on complacency. Some believe complacency can be a virtue; that ‘it’ is not going to happen to them. We need to get the message across, so people will make some action on it. We could make ads where people lost their lives – ads that shock.
23. There are strong links with the National Parks at Carnarvon [near Woorabinda]. It would be useful to have stronger links between Traditional Owners, NPs and RIBS. We need more training and to work closely with RIBS, BoM, NPs and the Rural Fire Service so there is good communication and weather information sharing. There needs to be a pilot program of having people from these different groups learning to work there information together, to communicate about warnings and what to do, so if there is a hail storm blowing through, the different groups can communication ahead of the threat and work in with RIBS to spread the warnings and what to do.”

Indigenous radio, warnings out and linking structures

Following from points 6, 20 and 23 above, it is clear the relationships between funding, administration and on-ground partner and potential partner organisations with RIBS groups is a labyrinth. Figure 5 provides the beginning of a relationship map of this expressed concern. Figure 5 can start to help assist remote station managers and bodies to navigate and strengthen links and support. It may be added to by others over time. Any efforts to simplify some of these relationships would seemingly be welcomed by endusers, and perhaps agency members also.

Figure 5 Indigenous radio, warnings out and linking structures



ACMA - Australian Communications and Media Authority

DBCDE - Department of Broadband, Communications and Digital Economy

RIBS - Remote Indigenous Broadcasting Service

RIMO - Remote Indigenous Media Organisation

RIMOs undertake a range of operations – including providing operational and maintenance services for RIBS and retransmission facilities in their area. Services provided by RIMOs also include training, production of content, and support for local video production and provision of radio services.

RIBS are Indigenous broadcasters licensed under the Broadcasting Services Act 1992 to provide community broadcasting services in remote communities, enabling communities to have access to broadcasting services similar to those available to Australian citizens generally. [This written insert with thanks to DEWHA.] See also: Acronyms, p3.

The complexity of funding sources and remote operators' relationships was a recurrent theme from respondents and operator organisations. This was an

unforeseen outcome of this 'indicative' study, but hopefully this report will be shared with and used by organisations as one ingredient in arguing for and developing more streamlined enduser-oriented means of delivering top quality, local radio in remote communities. That in turn will enhance timely delivery of effective weather warnings which are current, detailed and locally targeted.

Figure 6 Modern communications towers and power, TI.



Section 6 Conclusions

There is high appreciation for the pilot BoM weather training courses, desk upgrades and ongoing efforts to get the words and language use right for local Indigenous radio announcers. Announcers are committed to convey real meaning to listeners leading into any threat season or event, and provide guidance for safety-oriented action as the impact approaches, right through, working from BoM and SES (and local Disaster Management Group) information. Sometimes the information is not timely, so the RIBS strategy to develop web-to-air warnings from the BoM website into the studio is encouraged and supported by operators.

There are concerns about gaining or holding operators, in a remote environment where many tasks have a high personnel turnover, so there is some suggestion of some operator payment, more than for one operator for 22 hours per week. Some stations were unstaffed for lack of operator incentives.

Because of the great diversity of people, languages, locations, threats and levels of preparedness engagement, all agencies need to treat each community as a distinct situation with varying needs. There were requests ranging from a full

digital video production studio, to more information throughout society on climate change as it relates to 'king tides' and low coastal atolls. There were concerns about hailstorms or cyclone, or neither, or about floods.

Simplifying funding arrangements and facilitating organisations for remote Indigenous radio operation is encouraged. Weather warnings delivery; relevant, local and timely warning sequences to trigger and maintain preparedness to and through an impact threat can embrace existing and emerging technological access to authoritative data via Indigenous radio networks working with regional groups. This will maximise broadcast of effective local warnings to those at risk.

There was the suggestion of more formal links between different agencies in sharing and spreading targeted warnings, from National Parks Rangers in the Woorabinda area to Sea Rangers and the schools network in Torres Strait. This place-based and whole-of-system approach to effective risk communication would bolster what necessarily happens in these self-reliant and intersupportive communities. Formally strengthening those links with the local radio station as a main warning conduit is encouraged. With a strong reliance on 'traditional weather reading' still active in many communities, encouraging traditional weather readers to go on air with their observations would be inclusive and provide warnings from a wider range of 'trusted sources'.

There is great operator willingness to gain as much knowledge, information access and technology as possible to maximise their capacity to reach their community members with effective and timely weather warnings. They are committed to broadcast any and all information on how to maximise community and individual safety ahead of, during, and in recovery from major and perhaps increasing weather impacts, because "People talk it around".

Some related and prior publications

- ADG (2008). *'Emergency Warnings- Choosing Your Words*. Attorney General's Department. Commonwealth of Aust. 31.
- Cottrell A and Lowe D 2007. Community engagement: Weather matters in Indigenous communities Workshop Report. CDS JCU. 61.
- Goudie D 1996. Early evacuation ahead of land-based and cyclone surge flooding. In (Ed) D King. *Flood management workshop proceedings*. Centre for Disaster Studies, JCU. NQ.
- Goudie D and King D 1999. Cyclone surge and community preparedness. *Austn. J. of Emergency management*. 13:1, 454-60.
[http://www.ema.gov.au/agd/EMA/rwpattach.nsf/viewasattachmentpersonal/\(85FE07930A2BB4482E194CD03685A8EB\)-Cyclone surge and community preparedness.pdf/\\$file/Cyclone surge and community preparedness.pdf](http://www.ema.gov.au/agd/EMA/rwpattach.nsf/viewasattachmentpersonal/(85FE07930A2BB4482E194CD03685A8EB)-Cyclone%20surge%20and%20community%20preparedness.pdf/$file/Cyclone%20surge%20and%20community%20preparedness.pdf)
- Goudie D 2003. A preliminary view of weather warnings and hazardous weather knowledge in Indigenous communities. *TCCIP Workshop paper for Safer Sustainable Communities 2003 Australian Disaster Conference, Canberra, 10-12 September 2003*. Published Bureau of Meteorology.
- Goudie D 2004a. Disruptive weather warnings and weather knowledge in remote Australian Indigenous communities. Web-based report
http://www.tesag.jcu.edu.au/CDS/reports/Gou_IWWRpt/index.shtml
- Goudie D 2004. More effective weather warnings for remote Australian Aboriginal communities in (Ed BoM) International Conference on Storms. Storm science to disaster mitigation. 11 Nat. Conf. Proceedings, Austn. Met and Oceanographic Society. AMOS. 20:155-156.
- Goudie DD 2005. Consultant's Draft Version 3a *Palm Island - Sustainability Landuse Plan* for broad discussion and feedback. SEES.
http://www.tesag.jcu.edu.au/Library/secure/pi_plan/contents.html
- Goudie D 2005. Sustainability planning: pushing against institutional barriers. *Ecosystems and Sustainable Development V*. WIT Press. WIT Transactions on Ecology and the Environment, 81:5; 215- 224, www.witpress.com.
- Goudie DD 2005. Cyclone surge and mass evacuation issues in Cairns, Australia. In (Ed Free and Jones) *TIEMS 12th annual International conference proceedings, 2005*. 2 – 10. 319.
- Goudie D 2007. Transport and Evacuation Planning. In (Ed. King and Cottrell) *Communities Living With Hazards*. Centre for Disaster Studies, James Cook University with Queensland Department of Emergency Services. 48 – 62. 293.
- Goudie D 2007. Oral histories about weather hazards in northern Australia. In (Ed. King and Cottrell) *Communities Living With Hazards*. Centre for Disaster Studies, James Cook University with Queensland Department of Emergency Services. 102 – 125. 293.

- Goudie DD 2007. Community safety and disaster risk communication – interactive community links, community media and the web. Conference paper. Emergency Media and Public Affairs conference. National. Brisbane July.
- Goudie DD 2007. Integrating the threatened into effective warning systems. Australasian Natural Hazards Management Conference 2007. Brisbane. July. <http://www.hazards-education.org/ahmc/2007/Australasian%20NatHazManConf%20Proceedings%202007.pdf> p 25
- Goudie DD 2007 a. Poster: Project C4b: *Effective risk communications – warnings. Community preparedness, emergency information transfer and uptake.* Australasian Fire Authorities/Council and Bushfire CRC Annual conference, Hobart. http://www.bushfirecrc.com/posters/C_%20Goudie.pdf
- Goudie DD 2007b. Bushfire Web review 2006/7. Centre for Disaster Studies for Bushfire CRC 60. <http://www.tesag.jcu.edu.au/CDS/Pages/reports/07%20%20Bushfire%20WEB%20REVIEW%201%20b.doc> 139.
- Goudie DD 2007c. Peak oil, planning, paths and passing paradigms. *Queensland Planner* 47:4. 9-13.
- Goudie DD 2007d. 2007 PIA Qld state planning conference. Planners embracing a *growth* and *contraction* future. *Queensland Planner* . 47:4. 6-8.
- Goudie DD 2008. Improving Delivery of Safety-oriented Weather Information for Non-English Speaking Households (NESH) <http://www.tesag.jcu.edu.au/CDS/Pages/reports/08%20W%20NESH%20Fin%201%20a.doc>
- Goudie DD 2008. *Sustainable disaster preparation and recovery planning. The Woodgate Beach example.* Centre for Disaster Studies, JCU. 43. <http://www.tesag.jcu.edu.au/CDS/Pages/reports/07%20Wo%20Woodgate%20Prep%20and%20evac%20pln%203%20f%20fin.pdf>
- Goudie DD 2008a. *Paths to sustainability implementation planning.* Discovery Rise, JCU Townsville: Report 1 Review of others' sustainability efforts. 38. http://www.ees.jcu.edu.au/cturp/DR_Rev_1.htm
- Goudie DD 2008b. Discovery Rise, James Cook University, Path to Sustainability. 2008 Workshop and next steps.
- Pt 1: <http://www.ees.jcu.edu.au/cturp/08%20DR%20Rpt%202%20B/08%20DR%20Report%202%20Pt%201%20d.doc>
- 2: <http://www.ees.jcu.edu.au/cturp/08%20DR%20Rpt%202%20B/08%20DR%20Report%202%20Pt%202%20c.doc>

3:

<http://www.ees.jcu.edu.au/cturp/08%20DR%20Rpt%20%20B/08%20DR%20Report%20%20Pt%203%20a.doc>

App:

<http://www.ees.jcu.edu.au/cturp/08%20DR%20Rpt%20%20B/08%20DR%20Report%20%20xAppendix%201%20a.doc>

Goudie DD 2009. Evacuation as a Communication and Social Phenomenon. In (Ed) RA Meyers. *Encyclopaedia of Complexity and Systems Science*. 3109 – 3142. SpringerScience+BusinessMedia, LLC.

<http://www.springerlink.com/content/r537u40560666751/fulltext.html>

Goudie DD 2009. The emergent science of engineering a sustainable urban environment.

<http://www.ees.jcu.edu.au/cturp/09%20CESE%20article%20Tv%20July/09%20W%20CESE%20Tville%20July%205%20a.doc>

King D and Goudie D 1998. Breaking through the disbelief - the March 1997 floods at Cloncurry. Even the duck swam away. *Aust. J. Em. Man.* 4:12, 29-33.

King DC, Cottrell A, Goudie DD & Cunliffe SK 2005. Community hazard awareness and resilience in northern Australia. In: Know Risk (Ed. United Nations ISDR), 324 - 325. United Nations.

King D and Goudie D 2006. Cyclone Larry, March 2006 Post Disaster Residents Survey. Centre for Disaster Studies, James Cook University, with the Australian Bureau of Meteorology. P77.

http://www.tesag.jcu.edu.au/CDS/reports/Larry_mainReport.pdf

King D, Goudie D and Dominey-Howes D 2006. Cyclone knowledge and household preparation – some insights from Cyclone Larry Report on how well Innisfail prepared for Cyclone Larry. *The Australian Journal of Emergency Management*, 21:3 52-59. August 2006.

[http://www.ema.gov.au/agd/EMA/rwpattach.nsf/VAP/\(A80860EC13A61F5BA8C1121176F6CC3C\)~AJEM_EMA_Larry_Aug2006.pdf/\\$file/AJEM_EMA_Larry_Aug2006.pdf](http://www.ema.gov.au/agd/EMA/rwpattach.nsf/VAP/(A80860EC13A61F5BA8C1121176F6CC3C)~AJEM_EMA_Larry_Aug2006.pdf/$file/AJEM_EMA_Larry_Aug2006.pdf)

Queensland Remote Aboriginal Media (Aboriginal Corporation) 2008. December Workshop. December Newsletter. p 1.

Appendix 1a Survey form



JAMES COOK UNIVERSITY CENTRE FOR DISASTER STUDIES

SURVEY

Effective remote Indigenous risk communication via radio 2009

The Centre for Disaster Studies, JCU is carrying out a **voluntary** survey to help the Weather Bureau and others understand how well the local Indigenous radio network activates community members before, during and after natural disaster threats, using the floods early this year as an example.

The survey is in four sections – A: The Weather Bureau training program for radio announcers. B: Language used to properly motivate people to participate in preparations. C: Usefulness of upgrades to the radio network. The goal is to improve these things.

Thank you for your help.

Survey #

Community _____; Radio station _____ Date

Section A:

The Weather Bureau training program for radio announcers.

1. Which Bureau program did you attend (Townsville in 2007 or Cairns in 2008)

1.1 What were the strengths and weaknesses of the training program?

1.2 Was the workshop 1 = very useful, 2 = useful, 3 = of little use [circle one response] in improving the way you deliver warnings over the radio?

1.3 What do you remember about what was presented?

1.3.1 How easy was it to understand then?

1.3.2 How do you use the workshop information now?

1.3.3 How could ongoing training programs about weather warnings be improved?

1.4 Are there other ways of upgrading announcer's ability to clearly speak about weather risks and ways to get safe and stay safe?

Community management

1.5. Is the weather information used for: planning in the pre-cyclone season **Y**
N

1.5.1 _____

1.5.2 - planning re-supply **Y N**

1.5.3 _____

1.5.4 - planning evacuation **Y N**

1.5.5 _____

1.5.6 [other] _____

1.6. Do you get feedback or questions from the community about weather threats or safety preparations? **Y N** 1.6.1

1.6.2 Who asks you for information and what do they want to know?

1.6.3 Are you, as a radio operator, seen as a 'trusted source' of information **Y**
N 1.6.4

Section B: Language used to properly motivate people to prepare

2. How would you rate the words used in the warning messages (1 = v poor; 2 = poor; 3 = not much use; 4 = good; 5 = very good). 2.1 (comment)

2.1.2 Apart from information you get from the Weather Bureau, do you also get information from your local government or from the state Government? **Y N**

2.1.3 If so, what information do you get from your local government or the state government?

2.2 Is the information you get clear? - **Y N**

2.2.1 or does it need to be reworked so it makes sense to your audience?

2.3 How can the information received be improved?

Section C: Usefulness of upgrades to the radio network.

3. Has your radio station had a major upgrade? **Y N** 3.1 When was it completed? _____

3.2 Did you notice or hear of any changes in the strength or reliability of the signal or the ease and range of desk operations. Please detail.

3.3 Are there further ways you feel the broadcast technology could be improved?

Section D: General

4. Where did you get your main information about the floods?
(#1 first, 2, second ...)

| | | | | |
|--|--|--------------------|--|--|
| From the TV | | From radio | | |
| From the State Emergency Services | | Which station (s) | | |
| From BoM | | From your employer | | |
| From the Shire council | | Other source (s) | | |
| From your own knowledge and experience | | Further comments | | |

4.1 Ways to improve warnings, particularly flood warnings

4.2 Other comments:

Thanks again for your time. You will be emailed or sent a draft copy of the report for any final input. The final report will be posted to the web and we will send you the link.

Dr Douglas Goudie, Senior Researcher
Centre for Disaster Studies;
School of Earth and Environmental Sciences,
James Cook University Townsville 4811,
0747814913, 0419726384

Appendix 1b Cover email sent to all respondents

[Logos]

JAMES COOK UNIVERSITY CENTRE FOR DISASTER STUDIES

Effective remote Indigenous risk communication via radio 2009

x/8/9

Dear x

The Centre for Disaster Studies, JCU is carrying out a voluntary survey to help the Weather Bureau and others understand how the local Indigenous radio network activates community members through natural disaster threats, using recent floods as an example.

The survey is in three parts – A: The Weather Bureau training program for radio announcers. B: Language used to properly motivate people to participate in preparations. C: Usefulness of upgrades to the radio network.

The Bureau of Meteorology is interested to find out from those who attended an Indigenous radio operators training workshops at 4K1G in Townsville in April 2007, or at QRAMAC in Cairns, December 2008. They want to know what you found useful, and if things in the workshop made you feel more able to clearly tell your listeners what to expect and what to do to make sure they stayed safe. They also want to know if there are other ways to have community members and radio announcers better able to get and spread safety warnings.

The Federal Attorney General's Department wants to know about words used in warning and safety advices. I have sent you the booklet they produced *'Emergency Warnings- Choosing Your Words'*. They want to know if or how this booklet will be useful to you. They would also like to know what other ways you have, to get safety information about big weather threats, like the recent floods, say from state or local government.

The Federal department which looks after 'culture': The Department of Environment, Water, Heritage and the Arts, has been funding remote Indigenous radio station equipment upgrades. For those with the upgrades, they want feedback on how those have changed your radio communications.

I will be coming to meet with you soon, or in some cases, just phoning or emailing to work through a survey about these things. It takes about 20 minutes. The only goal is to help people in remote Indigenous areas to get safe and stay safe ahead of big weather risks.

Yours *Douglas Goudie*

Dr Douglas Goudie, Senior Researcher, Centre for Disaster Studies; School of Earth and Environmental Sciences, James Cook University Townsville 4811, 0747814913, 0419726384

http://www.jcu.edu.au/ees/staff/academic/JCUDEV_018162.html

Appendix 2

Record of process

After formal contact from BoM on 4/5/9, a draft contract was developed on 6/5/9. The three principals were encouraged to make clear what they wanted to know, and a survey form developed, along with cover letter/email and consent form.

On a modest budget, communities were selected if: they have an announcer who did the BoM course; then, ideally, if they had had a station desk upgrade (Fig 1). Organising people to be available in sequence: Cairns, Wujal Wujal, Hope Vale, Mornington Island, TI and Moa Island took some time.

I met with the organiser of the Cairns workshop on 6/7, and drew on her observations (1 hour, 9 -10), then met with the one operator who did the workshop, interviewing her and four others (1 ½ hours, 2 – 3.30) in Wujal Wujal, thanks to Viki. Organising such a meeting would not have been easy. Wujal had a new desk installed in June.

On 7/6 I met with a Cooktown resident who did the course, drove to Cairns and flew to Mornington Island the next day, meeting up with the long-time RIBS operator, having spoken at length to one of the system technicians (see Auxiliary interview with Shane, and Fig 2). I was escorted around TI by Jon Whop, whom I worked with on-air in 2008 via 4MW. He introduced me to many people (see auxiliary interviews), including two radio announcers. Write-ups of interviews were always done within three days, so the material was fresh and unique to that interview.

On return to Townsville, the transcripts were refined and sent to the interviewees, asking for corrections, and four phone interviews were conducted – five were attempted, but the contact for one community failed to be available after the initial contact.

In late August, an interim draft report was sent to the Principals for any feedback or input. DEWHA responded promptly and thoroughly, BoM in late August.

In late September, Version Draft 2; 28/9/9 was posted to the web, with the Url and an invitation to give any fine feedback extended to all participants. I received some refining detail from DEWHA on 12/10/9. Very helpful, with some typos corrected as well. I consider, at 23/10, my work is done, and hope many agencies, including the principals, and members of the Indigenous radio community can use this report to streamline and strengthen effective risk communication to all peoples in the NIBS broadcast range.

DDG.