

## Annex D – Hazard Reduction Activities

Hazard	Gap in Reduction Activities	Affect	Readiness/Response Solutions
<b>Flooding</b>	<ul style="list-style-type: none"> <li>• Stop banks don't provide complete protection</li> <li>• Non or miss forecast events</li> <li>• Areas with limited or no protection</li> </ul>	<ul style="list-style-type: none"> <li>• People become complacent</li> <li>• People/communities at risk</li> <li>• Infrastructure damage</li> <li>• Agriculture/Horticulture damage</li> </ul>	<ul style="list-style-type: none"> <li>• Education, warning system, contingency plans</li> <li>• Early evacuation, increase surveillance</li> <li>• Co-ordinated response</li> <li>• CDEM Plan</li> </ul>
<b>Tsunami – Local</b>	<ul style="list-style-type: none"> <li>• Minimal possible</li> <li>• Potential for unexpected wave heights</li> <li>• No protection in place</li> <li>• Little warning</li> </ul>	<ul style="list-style-type: none"> <li>• Many casualties/people at risk</li> <li>• Infrastructure damage</li> <li>• Accommodation loss</li> <li>• Agriculture/Horticulture damage</li> </ul>	<ul style="list-style-type: none"> <li>• Medical response plan</li> <li>• Emergency welfare</li> <li>• Co-ordinated response</li> </ul>
<b>Tsunami – Distant</b>	<ul style="list-style-type: none"> <li>• Potential for unexpected wave heights</li> <li>• No protection in place</li> </ul>	<ul style="list-style-type: none"> <li>• Infrastructure damage</li> <li>• Accommodation loss</li> <li>• Many casualties</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Welfare</li> <li>• Maintain warning system and contingency plan</li> <li>• Co-ordinated response</li> </ul>
<b>Bio-Security Emergency</b>	<ul style="list-style-type: none"> <li>• MAF Biosecurity has role which needs to be reviewed</li> <li>• Delay in the review means delays in response planning</li> <li>• Inevitability of future infestations</li> </ul>	<ul style="list-style-type: none"> <li>• Huge economic losses</li> <li>• Response hindered by lack of awareness and co-ordination</li> <li>• Indirect affects like increased erosion and rural fire from forest death</li> </ul>	<ul style="list-style-type: none"> <li>• MAF to give consistent message on its responsibility to the Island and run workshops</li> <li>• Work with MAF to align systems in MAF and emergency management plans</li> </ul>
<b>Public Health Emergency</b>	<ul style="list-style-type: none"> <li>• Generalist skills means that there may not be sufficient knowledge of some risks</li> <li>• Broad range of possible scenarios precludes effective planning for all</li> </ul>	<ul style="list-style-type: none"> <li>• Unexpected outbreaks</li> <li>• Containment problems</li> <li>• Lack of understanding by public likely to exacerbate problems</li> <li>• Potential large numbers of casualties overwhelming health system</li> </ul>	<ul style="list-style-type: none"> <li>• Surveillance in place for predictable risks</li> <li>• Public education</li> <li>• Co-ordinated response</li> <li>• Linkages with Ministry of Health and other public health units</li> <li>• Electronic group of</li> </ul>

			<ul style="list-style-type: none"> <li>Action taken too late</li> <li>change patterns of disease</li> <li>Inability to recognise threat early enough or take adequate action</li> <li>No response plan in place</li> </ul>	<p>Medical Officers of Health</p> <ul style="list-style-type: none"> <li>Maintenance of skills and broadening of skill base within Public Health service</li> <li>Development of generic response and support</li> </ul>
<b>Wind Storm</b>	<ul style="list-style-type: none"> <li>Potential for an event that exceeds building and lifelines design</li> <li>Not much known about level of threat we can expect</li> </ul>	<ul style="list-style-type: none"> <li>Loss accommodation</li> <li>Loss of power communications</li> <li>Possible casualties</li> <li>Potential for unexpected losses in all sectors of the community</li> </ul>	<ul style="list-style-type: none"> <li>Maintain warning system</li> <li>Emergency welfare</li> <li>Public education for loss of services</li> <li>Medical planning</li> <li>Co-ordinated response</li> <li>More hazard research</li> </ul>	
<b>Communications</b>	<ul style="list-style-type: none"> <li>Potential for loss of all phone communication to and from the island</li> </ul>	<ul style="list-style-type: none"> <li>Ability to turn out Fire Service</li> <li>Delay or failure to respond</li> <li>Delays in response with impact on the incident requiring support</li> </ul>	<ul style="list-style-type: none"> <li>Investigate alternatives (satellite phones)</li> <li>Co-ordinated response</li> </ul>	
<b>Hazardous substances</b>	<ul style="list-style-type: none"> <li>Incomplete data for type and location</li> <li>Storage incomplete</li> <li>Lack of event SOP's</li> <li>Return periods unknown</li> <li>Lack of knowledge about scenarios</li> <li>Incidents will still occur</li> </ul>	<ul style="list-style-type: none"> <li>Emergency services ill prepared</li> <li>Reduced knowledge</li> <li>Planning difficult</li> <li>Potential threat to people and the environment</li> </ul>	<ul style="list-style-type: none"> <li>Establish maintain database</li> <li>Do Mapping</li> <li>Produce SOP's</li> <li>Research return period</li> <li>Produce scenarios</li> <li>Maintain response capability appropriate to threat</li> <li>Co-ordinated response</li> </ul>	
<b>Fire – Rural</b>	<ul style="list-style-type: none"> <li>Potential will always exist for event</li> </ul>	<ul style="list-style-type: none"> <li>Economic losses from production</li> <li>Potential for threat to life</li> <li>Erosion problems</li> </ul>	<ul style="list-style-type: none"> <li>Co-ordinated response</li> <li>Stand by resources</li> <li>Public education</li> <li>Notification and warning systems</li> </ul>	
<b>Storm Surge</b>	<ul style="list-style-type: none"> <li>Potential will always</li> </ul>	<ul style="list-style-type: none"> <li>Potential casualties</li> </ul>	<ul style="list-style-type: none"> <li>Medical plan</li> </ul>	

	exist for event			
<b>Earthquake</b>	<ul style="list-style-type: none"> <li>Events can happen at any time</li> <li>Maximum threat uncertain</li> </ul>	<ul style="list-style-type: none"> <li>Loss of accommodation</li> <li>Coastal erosion affecting lifelines isolating communities</li> <li>Damage to buildings and infrastructure some losses long term</li> <li>Potential casualties</li> <li>Delays in trained staff with equipment</li> <li>Airport could become inoperative</li> </ul>	<ul style="list-style-type: none"> <li>Co-ordinated response</li> <li>Warning system</li> <li>Emergency welfare</li> </ul>	<ul style="list-style-type: none"> <li>Co-ordinated response</li> <li>Continue research</li> <li>Medical plan</li> <li>SOP's to address</li> <li>Response to restore airport to restricted operations as soon as possible, timeframe dependant upon damage</li> </ul>
<b>Utility - Power</b>	<ul style="list-style-type: none"> <li>Loss to main township and some outer rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Loss of network supply</li> </ul>	<ul style="list-style-type: none"> <li>Limited standby generation</li> <li>Co-ordinated response</li> </ul>	<ul style="list-style-type: none"> <li>Limited standby generation</li> <li>Co-ordinated response</li> </ul>
<b>Transportation - Air</b>	<ul style="list-style-type: none"> <li>There will always be the potential for an aircraft crash</li> </ul>	<ul style="list-style-type: none"> <li>High likelihood for loss of life and serious injuries</li> <li>Short term loss in confidence</li> </ul>	<ul style="list-style-type: none"> <li>Airport emergency Plan and Procedure</li> </ul>	<ul style="list-style-type: none"> <li>Airport emergency Plan and Procedure</li> </ul>
<b>Transportation - Marine</b>	<ul style="list-style-type: none"> <li>There will always be the potential for a marine accident</li> </ul>	<ul style="list-style-type: none"> <li>Significant environmental damage</li> <li>There are a risk t people but it is not on a large scale.</li> </ul>	<ul style="list-style-type: none"> <li>Response organisations needed for rescue and pollution response</li> <li>Education programs on safety at sea</li> </ul>	<ul style="list-style-type: none"> <li>Response organisations needed for rescue and pollution response</li> <li>Education programs on safety at sea</li> </ul>
<b>Transportation - Road</b>	<ul style="list-style-type: none"> <li>Cannot protect against</li> <li>Major flooding</li> <li>Major erosion</li> <li>Earthquake damage</li> </ul>	<ul style="list-style-type: none"> <li>Road users at risk</li> <li>Communities isolated</li> <li>Infrastructure damage</li> <li>Loss of bridges taking out other services</li> <li>Access problems affecting other utility owners restoration</li> </ul>	<ul style="list-style-type: none"> <li>Reporting of events occurrences</li> <li>Response to warn road users</li> <li>Have alternative access</li> </ul>	<ul style="list-style-type: none"> <li>Reporting of events occurrences</li> <li>Response to warn road users</li> <li>Have alternative access</li> </ul>
<b>Fire - Urban</b>	<ul style="list-style-type: none"> <li>Impossible to prevent all fires</li> </ul>	<ul style="list-style-type: none"> <li>Lives at risk</li> <li>Structures at risk</li> <li>Some daytime volunteer response difficulties</li> </ul>	<ul style="list-style-type: none"> <li>Co-ordinated response planning</li> <li>Continuing recruiting campaign</li> </ul>	<ul style="list-style-type: none"> <li>Co-ordinated response planning</li> <li>Continuing recruiting campaign</li> </ul>