

Guest Editorials

Preparing for Pacific prosperity or disaster

Mark Keim*

When the Spanish explorer Balboa first gazed upon what appeared to him as the calm blue waters of the world's largest ocean, he called it "Pacific". However, Balboa's perception of this great body could not have been further from the truth. Oceania is actually one of the most disaster prone areas of the entire world, second only to Latin America, (where the populations are much larger and many of the nations are relatively richer than those of the Pacific).

According to the International Red Cross and Red Crescent Society, during an average year in the Pacific, natural and man-made disasters cause nearly \$1 billion U.S. dollars worth of property damage and adversely affect the lives of over one-third of Pacificans. Historically, disasters in the Pacific have also extended to affect the entire world. For example, the eruption of Krakatoa volcano is blamed for causing not only the world's largest tsunami (tidal wave) disaster but also massive starvation in Indonesia, political disruption in central Asia, and a worldwide global cooling that extended beyond the region to also include most of North America and Europe. During 1986 to 1996, the top ten largest earthquakes in the world all occurred along the Pacific Rim. This "ring of fire" as it has been called for its many volcanic hotspots, is actually the border of several tectonic plates that make up the crust of the world and also marks the origin and source of frequent earthquakes and tsunamis.

In addition to these natural hazards, Pacific countries, (like most developing nations of the world), now face the increasingly frequent occurrence of man-made or "tech-

nological" disasters. In addition to airliner and marine transport losses of recent times, Pacificans have also suffered increasingly frequent environmental and human losses caused by the release of hazardous materials that are known to poison flora and fauna of both land and sea alike. Last century's world war as well as the recent episodes of civil strife in the East Timor, Fiji, and Solomon Islands along with terrorist attacks in Bali and the Philippines are examples of armed conflict, yet another serious man-made threat to the health and welfare of Pacificans.

In spite of these enormous losses and significant vulnerability, Pacificans (and the rest of the world) take relatively few measures to prevent, mitigate, or prepare for these predictably frequent catastrophes within the Pacific. In comparison to Latin America, there are very few national or international organizations that are working to lessen the effect of disasters within the Pacific. One recent pilot study of emergency preparedness in Oceania revealed indications of what may be a region-wide endemic lack of public health and medical preparedness and thus an excessively high vulnerability of Pacific populations to disasters.



The probability of disaster occurrence has been described as directly proportional to the frequency of hazards, along with the vulnerability of the populations, and the adverse impact of the event. The Pacific region is well known for leading the world in incidence of numerous disaster hazards. When these frequent hazards come in contact with populations that are especially vulnerable, (due to factors of poverty, geographical isolation, and a lack of preparedness, etc.), the likelihood of catastrophic disasters are remarkably increased. The impact of these events is also notably high. Per capita, Pacificans lose more of their hard earned money to disasters than

any other region of the world. The deleterious effects that these frequent disasters have upon economic and social development in the region are more difficult to measure. One can only ponder what strides of economic stability, public health, medicine, culture, education and social welfare have been lost within this region due to the all too frequent hazards of typhoons, drought, floods, earthquakes, wildfires, volcanic eruptions and armed conflict.

It can easily be seen that the historical accomplishments of Pacificans have been remarkable. The huge stone sculptures of Easter Island, and the basalt cities Nan Madol and Lelu, Micronesia stand in lasting tribute to the engineering prowess and organizational skills of the past

Mark Keim, M.D., Center for Disease Control & Prevention, Atlanta, USA. Written in Koror, Palau, October 25, 2002

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Pacificans. The eastern migration of Pacificans across the entire expanse of this vast region is a testament to the ability and determination of those early explorers that settled this region, an area of remoteness rivaled by few places in the entire planet. These early explorers did so with an intimate knowledge and respect for the many hazards of the voyage and they were diligent in their preparation for such long and risky excursions. They planned and built seaworthy ships to withstand the power of the world's largest ocean. They prepared and set aside provisions that would sustain them during lean times at sea. They studied the skies and the seas in order to better understand the hazards facing them and in order to find their way through safely. And they passed this knowledge to their children as each generation made successively further excursions into the unknown...seeking a new prosperity. The establishment of Pacific civilization itself would likely not have been possible without this strong sense of preparedness that people held during its origin.

I am also struck by what may be lingering signs of ingenuity and insight that past Pacificans applied in managing the frequent disaster hazards of the region. By way of example, during the 1980's, the low-lying coastline of Bangladesh suffered the frequent loss of literally hundreds of thousands of lives due to flooding caused by typhoon storm surges. Drowning during the storm surge causes ninety-five percent of typhoon deaths worldwide. During the next two decades, international organizations joined together to develop a "new" method of "vertical evacuation" whereby safe communal houses could be built upon firm and solid stilt structures so that the storm surge flooding of typhoons could go under the buildings, thus sparing the lives of the villagers sheltered inside. This action has since proven to be remarkably successful in saving lives.

The concept of a firmly stilted safe house seemed to me to be a novel invention of modern society until I first viewed the "tagga" or "latte" stones of Chamarron antiquity. There in Guam and in the Marianas Islands, I saw the remnants of tall stone stilts that scientists tell us where the foundations of certain communal buildings built in Chamorro villages. I now wonder if Chamarron engineers predated our supposedly modern accomplishment and have since provided us with a lasting example of vertical evacuation that we have yet to fully appreciate?

In many Pacific cultures, time is conceived as cyclical, rather than linear in nature. By revisiting and reviving traditions of the past, Pacificans may enjoy the wisdom, the pride and the enlightened strengths of their own many cultures. There are likely many such lessons to be learned

from the bravery and ingenuity of ancestors past. Pacificans have only to appreciate the past in order to add relevance to the present and to prepare for the future. This preparation may not only build a sense of accomplishment within the present culture, but may also safeguard the future of Pacific island security and development.

As the sunrise of the first day of the new millennium began its path across the Pacific Ocean, it also marked the dawn of a new era of change in the region. The new age of information and rapid transport are now serving to "shrink" the vast distances of the Pacific. Pacificans have progressively more opportunities to explore and reach across the ocean to distant shores, carrying with them ideas, philosophies and prosperity of culture. But like their forefathers and mothers, Pacificans must also first learn to identify the hazards now facing their own societies and take measures to prepare for, prevent, mitigate and respond to such threats, for the sake of future generations. The rewards of prevention and preparation are exponentially larger than any efforts for response or recovery after the fact. The quality of life of future generations of

Pacificans will rely heavily upon diligent forethought and preventive actions taken today. Future progeny may either continue to marvel at an ancient cycle of Pacifican preparedness or they may curse the post-modern era for linear thinking and shortsighted selfishness. The legacy of Pacific prosperity is ours to prepare. ■

Pacific Response and Disaster Readiness

Honorable Sandra Pierantozzi*

Friends, Ladies and Gentlemen: First, on behalf of the people and the Government of Palau, I would like to welcome you all to this Center for Disease Control and Palau Community College Bioterrorism Preparedness Developmental Workshop. This is now the second training series conducted jointly by CDC and PCC under the aegis of what is now called the Pacific Emergency Health Center - a training and technical assistance center that is being

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developed at PCC for Palau and the region. In this sad era of post 9-11, this workshop stems from a Cooperative Agreement signed between CDC and the Pacific Island Health Officers Association to address the emergency public health consequences of bioterrorism for the region. Additionally, this Bioterrorism Workshop, which will be conducted by CDC's Pacific Emergency Health Initiative, will also enhance our capacity to deal with other local and regional public health emergencies and improve our disaster management and mitigation skills.

In the Pacific, we are not immune to either natural or manmade disasters. We only need to look at the dengue fever epidemics, the typhoons, earthquakes, and tidal waves that affect our region. The recent and tragic events surrounding Typhoon Chata'an in our neighboring Micronesian island of Chuuk State in the Federated States of Micronesia underscore our vulnerability to such natural disasters. Locally, the collapse of our previous Koror-Babeldaob Bridge, airplane and boat crashes, and recent dengue fever epidemics underscore Palau's vulnerability. The tragic events also recently in Bali and in the Philippines remind us that terrorism is real and close at hand.

In the Pacific, disasters are not academic, they are real and they are common. We are connected, not separated by the Pacific. Disasters are not just someone else's problems – they are our problems too. We commend the efforts of Guam's Ayuda Foundation, the Naval Regional Hospital – Guam, and CDC's Pacific Emergency Health Initiative for their valiant efforts recently in Chuuk. We are proud to say that Palau played a modest role in post-Typhoon Chata'an period by sending a medical and environmental health team to Chuuk with several pallets of airfreighted medical drugs and supplies. We are interconnected; we are not separated. This is an important reason for us to plan for and be ready to respond effectively to these disasters that affect us all.

Just 13 months ago CDC's Pacific Emergency Health Initiative and PCC conducted the first regional training programs to assist us in enhancing our public health disaster planning capacity and to improve our First Responder Emergency Medical Services care. With CDC's help these two programs came about from the hard work of the Palau Ministries of Health and Justice, our National Emergency Management Office, Palau Community Col-

lege, and the Palau Chapter of Red Cross. Prophetically, these two training programs were conducted over the tragic day of September 11, 2001. Much has happened since, and Palau and the region have now become eligible for CDC funding to improve our capacity to deal with public health emergencies related to both bioterrorism and other disasters. Additionally, the U.S. Public Health Service, through a competitive grant application process, has assigned to Palau a Family Practitioner with special training in bioterrorism – called a Ready Responder – who will assist us in developing the Pacific Center for Emergency Health and our local EMS capacity.



Today, I am greatly honored to welcome all of you to this second workshop where we hope to continue building upon last year's accomplishments by assisting public health officials in completing many of the objectives of the recent CDC Bioterrorism Cooperative Agreement. I am also much honored to welcome all lawmakers here today, especially those who have come from afar, to this conference, because you play a major role in

issues of great importance to public health such as emergency preparedness. This promises to be a successful workshop, and I hope that you will not only participate actively, but also enjoy our hospitality for the next two weeks.

Before closing I would like to acknowledge the return of our good friend from CDC - Dr. Mark Keim. Through the Pacific Emergency Health Initiative, Dr. Keim has been laboring for several years to improve regional public health disaster management capacity – long before 9-11 and long before dealing with disasters in the region had become politically fashionable and better funded. We thank you, Mark, for your love of our islands and for your gentle and not-so-gentle-persistence in helping us to appreciate our need to be prepared.

In closing, I would like to say that we in Palau are honored to be part of this developmental process to assist Palau and the region in improving our public health emergency preparedness skills. We hope you enjoy our beautiful island and we look forward to you stimulating our economy. And please keep in mind: as Pacific Islanders we are connected by more than just water. We hope this Workshop is another example of how, in the Pacific way, we respect and cherish each other. ■