

DMO

DISASTER
MANAGEMENT
OFFICE

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“Information Sharing saves LIVES”

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On Thursday 13th December 2012, Samoa was struck by the devastating forces of Tropical Cyclone Evan which was at the time classified as a Category 3 cyclone. The devastation resulted in the extensive damages to several homes and properties and infrastructure mostly on the central and eastern regions of Upolu. Much of the severe damages were a result of the flash floods that occurred in the Vaimauga West region. The nature and magnitude of such an event had never before been experienced or seen in Samoa. The aftermath of the cyclone was a disheartening reminder of the devastations of Cyclones Ofa and Val that had been previously experienced in the early nineties and to many the destruction left by the flash floods brought back vivid memories of the 2009 tsunami.

The origins of TC Evan were initially reported by the Samoa Tropical Forecasting Center (STCFC) of the Meteorology Division on Sunday 9th December 2012. At the time, it was identified as a low pressure disturbance 400 nautical miles west of Samoa with the potential to develop into a tropical depression and a moderate outlook of becoming a tropical cyclone.

With continuous monitoring, it was later reported on the same day that the low pressure disturbance had developed into a tropical depression. On Wednesday 12th December the tropical depression had developed into a tropical cyclone located at 160 nautical miles west of Apia with a wind speed of 35mph.

The newly formed cyclone was then named TC Evan by the Regional Specialized Meteorological Center (RSMC) in Fiji. At this time the Declaration of Disaster was then signed and issued by the Acting Prime Minister and Acting Chairman of the National Disaster Council, Fonotoe Pierre Lauofo, thus, activating all disaster response provisions of the National Disaster Management Plan. *(Cont'd on pg. 2)*



Parts of Magiagi, swept by flood

TC EVAN HITS SAMOA

(Cont'd from pg. 1) By the morning of Thursday 13th December the forces of TC Evan had reached our shores with wind speeds of 55 to 70mph and extreme heavy rainfall which continued intensively throughout the day consequently leading to the flash flood that wreaked havoc across the Vaimauga West region and areas in the Safata District. During this time, response agencies including FESA,



Members of response agencies working on-site at Lelata.

Ministry of Police, Samoa Red Cross, EPC and others were working round the clock to respond to calls that were flooding in at the National Emergency Operations Centre which was being operated by the staff of DMO.

Unfortunately, despite the enduring rescue efforts of the response agencies, which continued well into the night with the evacuation of affected families, the flash flood mercilessly claimed four casualties three of which from the Vaimauga West region and the fourth from Safata. In addition a total of 10 people were reported missing, nine of whom were fishermen lost at sea. Up until this day, none of this ten have been found and with diminishing hope of survival the declaration of their deaths will make the official death toll of TC Evan a total of 14 deceased.



Scenes of the destruction of homes from the flash flood at Lelata

RELIEF AND RECOVERY EFFORTS OF TC EVAN

On the 14th December 2012, relief and recovery operations commenced almost immediately after the full force of TC Evan had been experienced. The National Disaster Council chaired by the Acting Prime Minister had convened a day before the cyclone struck in anticipation of the potential impacts. The National Disaster Management Plan was activated, implementation committees met and disaster relief and recovery operations swung into action. A State of Emergency was proclaimed on the 17th of December after an initial impact assessment was completed.



Some of the relief workers from VERTS having a debriefing.

In the meantime people in the severely affected areas whom had lost their homes were taken to evacuation shelters at several locations. Naturally the top priority was the people; getting the living to safety, attending to the needs of the displaced and severely affected families, and accounting for the dead and missing. Accordingly, the first supply of relief aid including food, water and other basic necessities were immediately distributed to the evacuation shelters while search and rescue efforts by the Ministry of Police and FESA were ongoing. Meanwhile work had started on clearing the main roads of debris and fallen power poles to ensure that response personnel could commute and operate without any blockages.



Members of the distribution team sorting the aid for delivery.

In the days that followed, relief aid started arriving from foreign national governments and organizations as well as local and foreign corporations. Subsequently, the NEOC Warehouse was set up at the Faleata Weightlifting Gym to house the operations of the distribution of aid to more than 2000 families in over... *(Cont'd on page 3)*

RELIEF AND RECOVERY EFFORTS OF TC EVAN

(Cont'd from page 2)... 160 villages. At the same time, initial damage assessments of homes and properties were still on-going. Furthermore, under the co-ordination of the Ministry of Finance and other sectors in collaboration with the World Bank, ADB, UNDP and other donors the Post Disaster Needs Assessment was conducted and completed. The PDNA Report has been completed and



Some of the audit and logistics team at the relief aid headquarters

its findings will inform and guide the formulation of the Recovery Plan for TC Evan. Today, almost four months later the recovery process, underpinned by the “build back better” principle, is progressing steadily.

VAISIGANO FLOOD 2012 Assessment Report

Following the devastating flood that occurred on Thursday 13th December 2012 during the event of TC Evan, an assessment was carried out led by Mr. Bob McKelvey of GHD Ltd and MNRE with the assistance of other Government Ministries and regional organizations.

The key objectives of the assessment were:

1. To identify the source of the flooding and define the extent and height of flooding; and
2. To identify flood impacts, damage and loss; and
3. To develop appropriate recommendations to reduce future risks along the Vaisigano flood plain.

The methodology involved for undertaking this study involved the following steps:

1. Research and review of existing information sources and technical studies;
2. Consultations with the relevant authorities (e.g. EPC, SWA and MNRE’s WRD, Spatial Agency, PUMA, DMO and the Meteorological Office) and community stakeholders.
3. Assess exposure; and
4. Evaluate and propose.

Key Findings of the assessment revealed that as a result of Tropical Cyclone Evan on Thursday December 13, 2012 the flash-flood was exacerbated by several key factors they include the river basin components, an areal extent, rapid onset of rainfall, the rainfall over the previous days, high velocity flows, landslips, hurricane strength winds and a mix of overbank and overland flows. Initial assessments indicate that the rainfall intensity over a two hour period resulted in 206mm an amount considered to generate flooding.



PDRRO, Toa'i Bartley



Landslides which occurred in the upper Vaisigano catchments

The assessment concluded that the major cause of the flooding was the intense rainfall event which appears to have been concentrated in the Vaisigano catchment with well over 400mm of rainfall falling within a few hours and intensities of greater than 80mm/hr being calculated. Land-sliding in the upper tributary catchments was exten-



Large quantities of logs and debris accumulated at the SWA site.

sive and contributed the silt and the large quantities of logs that were deposited downstream. The soils would have been saturated from the two days of earlier rain and would have offered little resistance to the onset of the heavy rainfall of the 13th of December.

The large number of logs that were rafted down the river with the flood were caught up against obstructions and formed temporary dams and caused failures building structures through accumulated water pressures and through acting as “battering rams” when impacting the buildings and pipelines. (Cont'd on pg. 4)

VAISIGANO FLOOD 2012

Assessment Report

(Cont'd from pg. 3) The extensive damage that resulted from the flood event was probably more noticeable due to the density of occupation that has occurred since the last flood event of similar magnitude (which possibly was the 1991 Cyclone Valelia event when similar rainfall fell within the catchment/however we do not have specific information on the flood event).

In the longer term, it needs to be recognized that the lower Vaisigano river is now a true urban catchment and an integrated approach of land use planning, drainage improvements and river protection works need to be developed over the longer term to protect residential and commercial properties as well as critical assets such as power stations and water treatment facilities. The baseline data on which to base decisions and future designs on needs to be improved recommendations include;

- Running the flood models again on the basis of the recent flood event data
- Improving the instrumentation and data collection within the catchment
- Investigating river training and drainage improvement solutions in the long term.

2013 Pacific Future Leaders Conference - American Samoa

The 'Future leaders of the Pacific' conference was held in Pago Pago, American Samoa, from February 4th to 7th. The conference was made possible by U.S Embassy in collaboration with the East West Centre. The conference hosted young leaders from each of the sixteen Pacific Island Forum nations to discuss trends, issues, and opportunities for collective regional action. Samoa was represented by Ms. Theresa Penn (MAF), Mr. Karl Lauulu (MOF) and Ms. Toai Bartley (MNRE).



Second from the right: Ms. Toai Bartley, Principal Disaster Risk Reduction Officer.

The main objective of the conference was to share experiences of young leaders from respective areas that they are employed in within their homeland and also to discuss a mechanism in which the voices of young leaders can be heard. The conference included seminars and topics debated amongst young members, it was a material opportunity for community leaders from around the Pacific to gather, discuss critical problems facing their people and environ-

ment, and plan for a whole of region approach to these difficulties.

Topical issues at the 'Future Leaders' conference, such as women's empowerment, climate change, sea bed mining and non-communicable diseases was guided by speakers from the East West Centre and dignitaries throughout the Pacific. Senior representatives from Honolulu, Dr. Allen Clark, Dr. Victoria Keener and Dr. Jerry Finin facilitated discussions on resource development climate change. His Highness Tui Atua Tupua Tamasese Efi, a leading authority on Samoan culture and language, was the key note speaker.

The conference provided a platform for aspiring young leaders from each Pacific Island Forum country to meet and discuss shared issues that their generation faces. Overall the conference was a success; young leaders should be encouraged to effectively participate in future conference.

Geo-referenced Disaster Risk Management Information System in SE & East Asia and the Pacific Workshop 20—22 February 2013

The Principal Disaster Management Officer, Ms. Molly Faamanatu Nielsen attended the Regional Workshop on Geo-referenced Disaster Risk Management Information System in South East & East Asia and the Pacific which was held in Bangkok, Thailand from the 20th – 22nd February 2013. The workshop was a follow up to the Expert Group Meeting on geo-referenced disaster risk management system in the Asia-Pacific region and it also served as an activity under the project entitled "Improving Disaster Risk Preparedness in the Economic and Social Commission for Asia and the Pacific region" which ESCAP is currently implementing.

The main objective was to discuss the importance of standardised geo-referenced information and necessity of having a strong institutional mechanism and coordination for data and information sharing among the relevant national agencies, networking and developing a Community of Practises for an effective disaster risk management and other relevant topics of interest.



Group photo of participants and facilitators of the workshop

Samoa's participation noted that the success of the Geo-DRM application and utilization depends on the capacity of local personnel at the national level. Thus, it was recommended to the ESCAP Secretariat that there is a great need for assistance in terms of trainings for personnel and establishing an efficient and effective institutional infrastructure with much emphasis on the use of GIS Mapping to implement Geo-DRM initiatives.

Ms. Nielsen was greatly appreciative of the given opportunity to participate at the workshop as it provided an invaluable learning experience on the importance *(Cont'd on pg. 5)*.

(Cont'd from pg. 4) ...and usefulness of space applications, satellite imagery and geo-information for disaster risk management. Furthermore it also provided an opportunity to engage and interact with fellow regional participants and facilitating experts sharing experiences and ideas on how to best move forward with the newly acquired knowledge and skills

CDCRM Support Partners Workshop 2—3 February 2013

The CDCRM Programme conducted its first “Support Partners Workshop” on the 2nd – 3rd March 2013 at Faofao Saleapaga. The workshop brought together participants from the various government agencies, non government organizations and development partners with significant roles in supporting community resilience to disasters and climate risks. These Support Partners included: Ministry of Women Community & Social Development, Ministry of Works Transport and Infrastructure, Ministry of Health, National Health Services, Samoa Fire & Emergency Services Authority, Ministry of Police & Prisons, Samoa Red Cross, AUSAID, NZAID and Civil Society Support Programme (CSSP).



Workshop participants and facilitators interacting during discussions

The purpose of the workshop was to identify how Support Partners can support disaster and climate risk management initiatives by village communities that have completed the CDCRM Programme. It was also an opportunity to bring partners to the table to collectively agree on the various means of providing support to the village level in an accessible and sustainable way. Involving Support Partners in the implementation of the CDCRM programme is crucial in ensuring significant progress is made towards reducing disaster & climate-



Participants getting into the rhythm of things with much enthusiasm

related risks and ultimately to achieving a culture of safety in villages.

The workshop completed with a positive outlook on the opportunities presented by the Support Partners that will have an enormous impact to communities building resilience BY communities FOR Communities. It builds on Support Partner’s social ties, networks, and support, also participatory decision-making than can uncover and mobilise support partner assets, strengths, and resources that would have been otherwise overlooked. The Support Partners Workshop was officially opened by DMO-ACEO Filomena Nelson, Facilitated by CDCRM Advisor Vaitoa Toelupe with technical assistance and funding from the Australian Red Cross, CDCRM Advisor Dawn Tuiloma-Su’a.

HR Training Programme 28 March 2013

The Disaster Management Office division held its HR Training and Programme for the staff on Thursday 28th March, 2013. The objective of the programme was to guide and refresh staff in HR areas in execution of duties and responsibilities as public servants. It was an opportunity to understand the functions and operations of the Ministry in line with their assigned works.



DMO Staff and HR trainers

The DMO acknowledged the HR personnel from the Corporate Services division, Ms. Tuiolo Schuster and Mr. Nusipepa Lepale for conducting the programme.

The staff were briefed on the following:

- Performance Appraisal System (PAS)
- MNRE Performance Management System
- (Corporate Plan, Management Plan, Capability Plan and Service Charter)
- PS Act 2004/2007
- (Code of Conduct, Principles of Employment, Values of Public Service)
- Working Conditions & Entitlements
- HR Functions & Policies
- (Grievances, Appeals Procedures, Promotions)

Basic Introduction to Disaster Risk Management

This extract is the first of a series of articles that will be printed in the upcoming issues of this newsletter to provide our readers with a general introduction to Disaster Risk Management. Disaster Management encompasses all aspects of planning for and responding to disasters. It includes pre- and post-disaster programmes, projects and activities designed to contribute to more effective response and recovery from adverse events, and to reduce the risks they pose. Effective disaster management involves a wide range of people and disciplines. Therefore, those who work with, or have the potential to be more involved with the development, and implementation of disaster management programmes and activities, need to have a clear understanding of the key concepts that define disasters and the threats of a disaster and the processes of disaster management.

Accordingly, there is a basic need to firstly understand the following important terms;

1. Hazard
2. Emergency
3. Disaster

HAZARD

The potential for a natural or human-caused event to occur with negative consequences.

The **key words** in this definition are *potential* and *negative consequences*.

Examples: Fires, cyclones, earthquakes, floods, disease, drought, civil disturbance, etc.

EMERGENCY

A situation generated by the real or imminent occurrence of an event that requires immediate attention.

The **key words** in this definition are *situation* and *immediate attention*.

Examples: Vehicle accidents, economic, health, agriculture, fires, etc.

DISASTER

Natural or human-caused event which causes intense negative impacts on people, goods, services and/or the environment, exceeding the affected community's capability to respond.

The **key words** in this definition are *negative impacts* and *exceeding...capability* and *community*.

Examples: Cyclones, tsunamis, fires, civil strife, plane crash, etc.

Disaster Classification

- Naturally caused – *primary source of event is natural.*
- Human caused – *primary source of event is human action.*
- Sudden onset – *little or no warning-minimal time to prepare.*
- Slow onset – *adverse event slow to develop.*

Hazards, Emergencies and Disasters

- ◆ **Emergencies** and **disasters** are related. *Adverse event that requires some actions. The response capability determines status.*
- ◆ **Emergencies** are considered to be 'routine' adverse events that do not have community (nation) wide impact or do not require extraordinary use of resources or procedures to bring people back to normal. *A house fire, vehicle accident, heart attack, broken water main.*
- ◆ When *communities* or countries are required to obtain resources from outside of their normal authority, the term **disaster** applies. *The response-recovery capability is exceeded by the magnitude of the event.*

HAZARD, VULNERABILITY & RISK

Prior to the event of a disaster, pre-disaster mechanisms are put into play to obtain critical information/data that will inform and guide the formulation and implementation of risk reduction and mitigation strategies. One of these pre-disaster mechanisms includes the **risk equation** as follows;

HAZARD X VULNERABILITY = RISK

HAZARD

The potential for a natural or human-caused event to occur, with negative consequences

Key words: *potential* and *negative consequences*

VULNERABILITY

The extent to which a community's structure, services or environment is likely to be damaged or disrupted by the impact of a hazard

Key words: *extent* and *likely to be damaged*

Examples: *people, property, environment, social structures, cultural practices*

RISK

The probability that loss will occur as the result of an adverse event, given the hazard and vulnerability

Key words: *probability* and *loss*

Risk refers to the probability of the elements at risk being affected by the undesirable consequences of an adverse event. For example, people living in flood plain face a greater risk of flooding than those who live on higher ground.

- ◆ **Hazard exists/event occurs, no Vulnerability, no Risk.**
- ◆ **Hazard unchanged, V increasing, R potential increasing.**
- ◆ **H and V high, R is high.**

Examples:

1. Drought occurs but population has food and water reserves.
2. Drought occurs and population has depleted food and water reserves.
3. Drought occurs and population has little or no food and water reserve.

(PART II of this Intro. to DRM will continue in the next issue)

International Course on Law & Legal Protection in Natural Disasters

San Remo, Italy, 3-7 Dec 2012

From the 3rd – 7th December 2012, James Maui, Disaster Management Officer for DMO attended the International Course on Law and Legal Protection in Natural Disasters which was held in San Remo, Italy. The main objective of the course was to discuss the ‘Global trends in Natural Hazards and Vulnerabilities’ with much emphasis on the development and correlation between Disaster Management and the Law. In doing so, the discussions further highlighted the importance of ‘International Norms and Domestic Response’ in relation to the legal protection of internally displaced persons.



Group photo of participants and course facilitators

The course was conducted over a five day period with an intense agenda that consisted of 14 sessions that discussed a number of issues ranging from ‘International Norms on Recovery’ to ‘Humanitarian Coordination’ to ‘Legal Issues in Domestic Response’. In attendance, were a total of 23 participants from different countries from the regions of Central America, Asia, Pacific, Africa and the Middle East. The 14 sessions were facilitated by 4 experts from the organizations of IFRC, UN-OCHA and UNHCR.



Far left: Disaster Management Officer, James Maui

From the intense discussions throughout the five day course, it was realized that many of the represented countries either had very little or non-existent mechanisms or strategies in place to address several of the core issues that were discussed. Thus, this course was an invaluable learning experience for Samoa, which will contribute greatly to local capacity-building in terms of expanding or modifying our approaches and policies to ensure that many of the issues that were discussed will be integrated accordingly. In particular, issues such as the ‘Legal protection of internally displaced persons’ may be an important topic the next review of the National Disaster Management Plan.

Staff Recruits



Name: Tanielu Vaiaso
Position: Disaster Management/Communications Officer
Section: Disaster Management
Previous Position: Senior Technician
Previous Place of Occupation: Ministry of Police and Prisons

Upcoming Events

- ◆ Emergency Operation Centre Training 22-26 April 2013
- ◆ National Exercise/Pacific Partnership June 2013
- ◆ Launch of Response Agencies Toolkit June 2013

DMO SOCIAL CLUB ACTIVITIES

- ◆ DMO Walkathon on Friday 22nd March 2013
- ◆ Easter Egg Hunt - Fun Activity for Easter Celebrations

Message from the Newsletter Team:

Newsletter Team wish to thank you all for making time available to read our DMO newsletter, we appreciate any valuable feedback you may have with regards to our newsletter. Thank you

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