Ministry of Climate Change & Adaptation

Government of the Republic of Vanuatu

2014 Annual Report

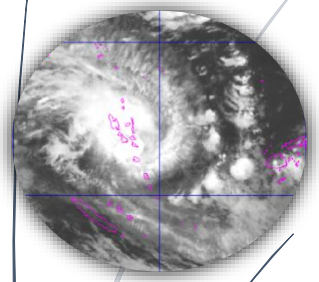
Vanuatu Meteorology & Geo-hazards Department

Department of Energy

Department of Environmental Protection & Conservation

National Disaster Management Office





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Contents

Hon Minister Thomas LAKEN (MP)

Office of
Minister of Climate Change Adaptation
PMB 9054
Port Vila
Vanuatu

The 2014 Annual Report of the Ministry of Climate Change Adaptation

It is with pleasure that I hereby submit to Parliament the 2014 Annual Report of the Ministry of Climate Change Adaptation (MCCA), Meteorology & Geo-Hazards, Energy, Environment and National Disaster Management Office.

In 2014, our relatively new Ministry began the long task of moving away from working as separate Departments – some in other Ministries – to working as part of the MCCA team. Issues with staffing, financial arrangements and physical resources made our task challenging. However, as can be seen from the following Departmental reports, with strong leadership, commitment, vision, professionalism and dedication, entrepreneurship + imagination, so much has been achieved.

The process of preparing Annual Report provides a very valuable opportunity for the Ministry team to look back to the year that has past, reflect on achievements but also analyse issues that can be better managed and resourced to pre-position the Ministry for the challenges that will no doubt arise in the new year of 2015.

Yours sincerely,

Honourable LAKEN, Thomas
Minister for Climate Change and Adaptation

DIRECTOR GENERAL'S PREAMBLE TO MCCA 2014 ANNUAL REPORT

Jotham NAPAT, Director General, MCCA

1. Introduction

The preparation of an Annual Report is a time consuming activity. Furthermore, it is an easy matter to look back with hindsight and wish we had approached an issue in a different way. As we all know, it's all too easy to be wise after the event.

However, the investment in time and effort is worthwhile. For the Ministry team, drafting an Annual Report provides a valuable opportunity to look back at the year that was, consider progress, achievements and problems and then use that knowledge and experience (both good and bad) to plan and strengthen the vision for the Ministry in the future.

"To fulfil your vision, you must have hindsight, insight and foresight"
Ifeanyi Enoch Onuoha

The year of 2014 was one where the vision of a Ministry of Climate Change Adaptation consisting of key departments active in Climate Change Mitigation, Disaster Risk Reduction and Disaster Risk Management and Environment all came together under one umbrella organisation with responsibilities including mainstreaming Climate Change issues through the whole of the Vanuatu Government as per the declared objective of the Priorities & Action Agenda and Plan Long Act Short (PLAS).

Preciously disparate departments and stakeholder organisations – donors, international agencies and Non Government Organisations pursued overlapping climate change activities, leading to duplication of structures, agendas, funding and roles. The creation of this Ministry was done with considerable foresight to make the best use of human, natural financial and organisational resources.

In the Pacific region, the establishment of this Ministry is regarded as "benchmark" – a standard and model to which other Pacific Island Nations aspire to replicate.

1.1 The New Look Ministry

Led by the Hon Prime Minister Moana Carcasses Katokai Kalosil, the Council of Ministers (COM) decision number 18/2013 (April 2013), strongly supported the Prime Minister's Office in a strategic

re-alignment of Departments to create the new Ministry. This was followed by the Gazette of 23 April 2013 establishing the Ministry consisting of:

- Corporate Services Unit (CSU);
- Vanuatu Meteorology & Geo-Hazards Department (VMGD);
    - Project Management Unit
- Department of Energy (DoE);
- Department of Environmental Protection and Conservation (DEPC);
- National Disaster Management Officer (NDMO).

In 2014, the Department of Energy moved into the MCCA Building leaving the Department of Environmental Protection and Conservation in the George Pompidou Building – but hopefully in the near future to have dedicated office space in the MCCA grounds. The Department of Meteorology and Geo-Hazards, an amalgamation of Departments from Ministry of Lands and Ministry of Infrastructure was approved. The Departments of Energy and Environment were also moved from Lands and restructure processes commenced for both to align their work to the strategies of the new Ministry.

The year was one where, looking back retrospectively, the Ministry had many achievements.

1.2 Achievements in 2014

The following is a brief Department by Department précis of the main achievements of the Ministry. Full details are provided in the Departmental Reports following in the 2014 Annual Report.

1.2.1 Corporate Services Unit

- Corporate Services Unit Structure approved;
- Ministry of Climate Change Adaptation and Disaster Risk Reduction policy developed;
- National Advisory Board (NAB) Secretariat established and seeking to recruit staff to implement all Climate Change projects;
- Legislative reviews underway to strengthen enabling framework of MCCA.

1.2.3 Vanuatu Meteorology & Geo-Hazards Department

- Strategic Plan 2014 – 2023 launched;
- Establishment of the multi-hazard early warning centre;
- Approval of the revised structure which will increase the number of the staff to 89 within the next two to three years;
- Continuous weather watch 24 hours a day and 7 days a week and
- Continued modernization of VMGD through various projects that will be implemented within the next two to three years
- Capacity Building Program sees VMGD officers undertaking post-graduate study;
- Two working groups established :
    - Community Outreach Program &
    - Research Working Group (to partner with international organisations undertaking research in Vanuatu to ensure flow of data/research material)
- VMGD utilises state-of-the-art technology to ensure high standard of client services.

1.2.3 Energy Department

- Approval of the 14 million USD for the SREP investment plan for Vanuatu by the Scaling Up of Renewable Energy Program (SREP) in November 2014;
- Completion of the Desalination Plants in East Ambae and Aniwa;
- Five Staff became permanent in 2014;
- Launching of the National Energy Road Map in April 2014;
- The GPOBA project officially began in September 2014;
- Vanuatu became the 21st member for the Global Green Growth Institute;
- Approval for funds for the Vanuatu Rural Electrification Project of 4.7 million USD by the NZ Government;
- Department moved to its new office on the 26th August 2014;
- By end of 2014, the Department of Energy has secured projects of 2.8 billion vatu of funding.

1.2.4 Department of Environmental Protection & Conservation

- New DEPC structure drafted for PSC consideration;
- The Penoru Community Conservation Area, West Santo, was nationally registered as a Community Conservation Area (CCA), with the launching ceremony on 22nd July 2014 by the President of Malvatumauri National Council of Chiefs, Chief Seni Mav Tirsupe Moltarvakavat;
- The Waste Management Act was passed by the Vanuatu Parliament in 2014; and the Pollution Control Act was passed by the Parliament in 2013; both Acts were gazetted in 2014;
- About 20 Preliminary Environment Assessments (PEAs) were undertaken in 2014, and approximately 10 Environment Impact Assessment (EIA) reports produced in 2014;
- DEPC organized a Customs Training to the Customs Officers to identify the bad gases 'Ozone Depleting Substances (ODS)' from entering the country. These gases contribute to deplete the ozone layer, so the training enables Customs Officers to control importation of ODS at the Vanuatu border areas especially at the wharves in Port Vila and Luganville. Also, amendments made to the Ozone Layer Protection Act;
- About 10 Stop Work Notices issued in 2014; and approximately 7 Penalty Notices issued increasing the revenue collected for the Government in 2014;
- Legislative framework for the Department strengthened through the passing of::
    - Waste Management Act
    - Pollution Control Act
- Review and regulation on-going for:
    - Community Conservation areas
    - Mangrove Protection
    - Specific Endemic Species Regulation
    - Waste & Pollution Control Regulations

1.2.5 National Disaster Management Office

Setting up of seven clusters within the Government mechanism with humanitarian partners;
Recruitment of Provincial Disaster Officers for Tafea, Malampa, Sanma and Torba;

- Establishment of Provincial Disaster Committees (PDC) in all six provinces;
- Establishment of community disaster and climate change communities in communities (CDCCC) around Vanuatu;
- Vanuatu Humanitarian Team network and members strengthened.

1.3 Challenges

As a new creation, the Ministry faced immediate organisational challenges in 2014:

- Enabling Framework of
  - policy &
  - legislation
- Institutional Reform and restructure
- Capacity Building – Building the MCCA "team"
- Corporate Planning
- Reporting
- Resource Allocation
  - financial,
  - facilities,
  - equipment &
  - people

All of these issues will be dealt with in greater depth in the following Department Reports.

1.4 Conclusion

It is with pleasure that I hereby submit to Parliament the 2014 Annual Report of our Ministry. The 2014 Annual Report of the Ministry of Climate Change Adaptation, Meteorology & Geo-Hazards, Energy, Environment and National Disaster Management Office has been prepared under Sub-Section 20 (1) (h) of the Public Service Act 1998 and the Public Finance and Economic Management Act 1998 (Section 30 (3)) in accordance with guidelines of the Public Service Commission.

The following pages, with individual Departmental Reports, demonstrate a new and vibrant Ministry actively pursuing a joint vision.

I am pleased to present the 2014 Annual Report as a demonstration of a Ministry pursuing integrated planning, resourcing and delivery, to achieve the Ministry's Vision:

> "*Develop sound policies & legislative frameworks and provide timely, reliable scientific information for service delivery to enable resilient communities, a sustainable environment and economic development.*"

Dated: May 2014

NAPAT, Jotham
Director General
Ministry of Climate Change and Adaptation

2. 2014 CORPORATE SERVICES UNIT REPORT

2.1 Introduction

The function of the Corporate Services Unit (CSU) is to facilitate the progression of cross-cutting issues such as the enabling framework of legislation, policy, Convention compliance, donor harmonisation, representation at sector stakeholder meetings as as the "public face" of the Ministry, as well as the administrative, financial and human resource issues of all departments in the Ministry of Climate Change Adaptation, Meteorology & Geo-Hazards, Energy, Environment and the National Disaster Management Office (NDMO).

2.2 Staffing & Financial Resourcing

The Corporate Services Unit structure was approved on 13th December 2013 but was not provided with staffing or operational budget for its activities in 2014. An adequate Operations budget for 2014 was not provided, leaving Cabinet staff without gratuities and across all Departments, serious budget constraints for retirement packages and medical retirements – most of which had to be deferred to 2015. However, the Departments contributed by providing virements from their own budgets to that of CSU, to allow CSU to function.

This lack of appropriate resourcing severely hampered the proper function of the CSU office, and indeed the entire Ministry. The Ministry is quite large.

By contrast, the Corporate Services Unit in the Ministry of Infrastructure had an operations budget in 2014 of 64,076,241 vt for a total staff of 284 or 225,620 vt per person. If MCCA were similarly resourced, its operations budget should be 28,653,811. In the Ministerial Budget Committee Submission, New Policy Projects were applied for to improve the financing of the Ministry but only one was approved for 2015 – that as part of an Energy Department MOU which stipulated a GoV commitment to the program.

A well resourced and effective Corporate Services Unit acts as the centre coordinating the effective function of a Ministry to achieve its goals and objectives in meeting the policies and priorities of the Government to provide effective responsive service delivery. The CSU must be effective in providing the policy directives, the operational resources and the Human Resource management to create an enabling operational environment for the Departments in the Ministry.

Staffing Numbers:
CSU – 7
VMGD – 87
Energy – 10
Environment – *9*
NDMO - *8*
Total: 121

The CSU provides corporate services to four Departments:

i. Vanuatu Meteorology & Geo-Hazards Department (includes Climate Change Project Management Unit),
ii. Energy,
iii. Department of Environmental Protection & Conservation
iv. National Disaster Management Office (NDMO)

However, only the Director General position has permanent status with the Finance Manager on short contracts and the Human Resources Manager seconded from the Vanuatu Meteorology & Geo-Hazards Department.

Name	Position	Position #	Scale	Employment Status
Jotham Napat	Director General	7000	EL2 8.5	Permanent
Vacant	Executive Officer	7001	F Ps 5.6	Vacant
Blake Napwatt	Finance Manager	7002	G So 5.0	Contract
Mike Waiwai	Human Resource Manager	7003	G So 5.0	Acting
Vacant	Executive Secretary	7004	Cs 2.7	Vacant
Vacant	Administrative Assist.	7005	Cs 2.1	Vacant
Vacant	Driver/Messenger	7006	Bs 1.6	Vacant

Despite this lack of funding and staff, the Corporate Services Unit was able to lead some major initiatives in 2014, largely through strong donor and sector stakeholder support.

Through 2014, considerable progress was made towards accreditation as a National Implementing Entity (NEI) for Climate Change funding. Once achieved, Vanuatu will be able to directly access and manage in country, the considerable funding available for Climate Change related initiatives. A lot of work still remains to meet the fiduciary governance standards. To do this, a properly staffed and resourced CSU is essential.

2.3 Facilities

The MCCA building in Port Vila is widely admired by regional organisations throughout the Pacific. However, the creation of the new Ministry with a need for professional office space for our Minister and his cabinet as well as the amalgamation of Departments previously physically located in other Ministries, has created a need for even more office space.

The Department of Energy secured project funding to refurbish a staff house in the grounds of MCCA but the Department of Environmental Protection and Conservation continues to be housed in the George Pompidou Building. This pre-Independence hospital converted into office space and largely used by the Ministry of Lands was condemned for use after the earthquake in 2004. Moving the Department of Environment to the MCCA grounds is not only an issue of more effective administration and professional collaboration but also one of organisational justice. We should not be housing our officers in dangerous office quarters.

With funding support from the UAE, air conditioners and lighting in the MCCA Building will be converted to LED or solar powered units. Cyclone Shutters were provided through project funding for the National Emergency Operations Centre (NEOC) within the National Disaster Management Office. However, no funds were provided for Cyclone Shutters for the entire MCCA Building, a situation that puts at risk the huge investment in Early Warning Systems in VMGD and indeed for the NEOC itself.

VMGD needs to replace several weather stations and staff houses, NDMO intends to provide decentralised services to all six provinces and plans to build NDMO offices in each province. Additional GoV or donor resources will be needed to actualize these infrastructure plans.

2.4 Policy Development

One of the most important developments in policy for 2014 was the preparation of the Vanuatu Climate Change and Disaster Risk Reduction Policy. This policy will be activated by applying the six principles of accountability, sustainability, equity, community focus, collaboration and innovation. Copy available on request to the CSU, MCCA.

This Policy aims to be accessible to and will be implemented by a wide range of government agencies and stakeholders. It takes a practical approach in view of Vanuatu's resources, exposure and demographic contexts. It seeks to strengthen existing capacity at national, provincial and area council levels, drawing on our rich heritage, traditional knowledge and lessons learned.

The Government of Vanuatu is committed to six key priorities to direct the country's climate change and disaster risk reduction efforts. These priorities fall into two categories of Systems and Themes.

The Systems are:

- Governance;
- Finance; and
- Knowledge and Information.

The Themes are:

- Climate Change Adaptation and Disaster Risk Reduction;
- Low Carbon Development; and
- Response and Recovery.

A number of cross-cutting issues have also been considered in developing this Policy and will be applied in implementation, including social and gender inclusion, capacity building, a multi-hazard approach, partnerships and mainstreaming into the business of a broad range of agencies and sectors. Under the strategies identified in the Policy, actions, lead and support agencies, resources and timelines will be further developed to operationalize this Policy.

An MCCA Social Safeguards Framework is required by many donors as part of funding applications and is needed for FIE compliance. This is a gap needing to be addressed in planning & funding.

2.5 Legislative & Convention Framework

Initial consultations were commenced in 2014 to review, redraft and present to Parliament very important pieces of legislation governing the work of our Departments.

- Review of the VMGD Act continuing;
- Funding sought for an urgent review of the National Disaster Management Act;
- Legislative framework for the Department of Environmental Protection & Conservation (DEPC) strengthened through the gazetting of::
    - Waste Management Act
    - Pollution Control Act
- Review and regulation for DEPC on-going for:
    - Community Conservation areas
    - Mangrove Protection
    - Specific Endemic Species Regulation
    - Waste & Pollution Control Regulation

The Ministry progresses compliance to several important Conventions. This has financial ramifications for membership fees and attendance at international seminars. If delegates are not sent and fees lapse, Vanuatu becomes non-compliant. Once signed, legislation and policy needs to be framed and implemented in Vanuatu to make the Conventions take effect. If this does not occur, signing these Conventions becomes aspirational only. This has an impact on funding made available for project initiatives.

- UN Convention on Climate Change (UNCCC);
- Convention on Biological Diversity;
- Nagoya Protocol;
- UN Convention to Combat Dessertification;
- Stockholm Convention on Persistent Organic Pollutants;
- Waigani Convention;
- Vienna Convention for Protection of Ozone Layer;
- Montreal Protocol (and three subsequent Amendments) on Substances That Deplete the Ozone Layer;
- Agreement to Establishing the South Pacific Regional Environmental Program.

2.6 Planning, Reporting and M&E

Despite the lack of an Executive Officer to assist the Director General in preparing reports and plans as required by the Government, the following were completed. Reports and plans are available on request to the CSU in hard or soft copy.

- 2014 – 2016 Corporate Plan
- 2014 and 2015 Business Plans
- 2014 and 2015 Budget Submission
- 2013 Annual Development Report (prepared in April 2014);
- MBC Submission prepared collectively & presented in August 2014;
- Monitoring & Evaluation (M&E) data collected for use in research and by DSPPAC
- Digitised data collected by VMGD for internal and regional use and research;
- Briefings for the Minister;
- Discussion Papers;
- Council of Ministers and DCO Papers as needed;

2.7 Project/Program Funding

Under the strong leadership of the CSU and MCCA Directors, project funding was negotiated and secured in 2014 for several important initiatives across the Ministry Departments.

We would like to take this opportunity to thank our donor partners for their on-going support for these major programs and also for the funding support for the provision of technical support through volunteer programs ie JICA, AVID, AYA, Peace Corps and VSA as well as identification and funding support for mobilisation of specialist Technical Advisors.

This invaluable support provided significant opportunities for peer networking and mentoring for MCCA counterparts, contributing to capacity building opportunities across the Ministry.

The Project Management Unit was supported by the CSU in implementing several major programs.

Project Name	Donor and Funding [Vatu]	Timeframe	Lead Agency	Key Activities
NAB/ PMU establishment	EU – GCCA V – 93,000,000	2012 – 2013 On-going activities	PMU	*Completed:* Agro-Met Provincial Consultations Standard Messages Compliance Training - Environment *Currently:* DRR/CC Policy Rainfall Network Training Information Communication Strategy for NAB
Mainstreaming Disaster Risk Reduction in Vanuatu	World Bank [PHRD] – 260,145,000	2012	PMU	Fit out of the NEOC at NDMO and Joint Warning Centre VMGD Partitioning of VMGD Building to accommodate new ministry Inundation Maps – Greater Port Vila and Luganville – Wind, Flood and Wave Development of Development Control and Zoning Plans Port Vila and Luganville End to end Tsunami Warning System Support for the establishment of NAB and PMU
Increasing Resilience to Climate Change and Disaster Risk Reduction	World Bank [GEF, EU & GFDRR] – 1,069,500,000	2013 – 2018	PMU	Support for the establishment of the NAB Institutional strengthening of NDMO – Training Building 2 provincial emergency Operations Centers – Torba and Tafea Strengthening of Volcanic Early Warning Systems Community Based CCA and DRM activities Trialing of Genetic modification to root crops Seed distribution centers in the province instillation of water tanks
Risk Governance Capacity Assessment	UNDP [DFAT] – 23,887,500	2013 - 2014	PMU	National Implementing Entity Rapid Assessment Public Finance and Disaster Expenditure Revue Capacity Assessment of Govt and partners in climate and disaster activities Risk Assessment
Pacific Risk Reduction	UNDP [DFAT] – 385,400,000 – 481,750,000	2014 - 2017	UNDP – Project Coordinator sitting with PMU	To be determined from the Risk Governance Capacity Assessment [late 2013]
COP 19	Oxfam – 2,784,000 GIZ – 2,845,000 Seeking other funding – 4,680,000 TOTAL project – 10,309,000	2013	PMU	Training and Workshop for COP 19 Preparation Finalization of National Position Paper Climate Change decision making training Climate strategy workshop Gender and age in climate change Sending Vanuatu delegation to COP 19 in Poland November
Adaptation to Climate Change in Coastal Zones in Vanuatu	UNDP [LDCF] – 773,690,000	2014 – 2017	PMU	Activities to be finalized Project Components Integrated Community Approaches to CCA Information and Early Warning Systems on Coastal Hazards Climate Change Governance

				Knowledge Management

2.8 Capacity Building

Support through the Corporate Services Unit saw many of the Ministry staff secure international scholarships and access to training seminars in the region and overseas, details of which will be provided in the Department report.

However, in 2014 the Ministry operated without a Human Resource Development Strategy, a gap needing to be redressed to remedy several major concerns such as:

- Performance Management System bi-annual reporting;
- Scholarship & Study Support Policy;
- Retirement Planning;
- Succession Planning;
- Equity & Gender Issues.

2.9 Public Awareness

As always, public awareness and access to information generated by the Ministry remains a strong focus. Weekly articles appear in the local newspapers “The Daily Post” and “The Independent” with radio and television following many of the stories.

The VMGD Communication and Engagement Strategy, although focused on public awareness and communication within the VMGD Department, provided strategies replicated by all of the MCCA Departments.

Environment Week, World Meteorological Day, MCCA Open Day, Energy Week, ICT Week and participation in Careers or Schools Awareness Programs continue to positively raise the Ministry’s public profile.

2.10 CHALLENGES:

2014 was a challenging year for the Corporate Services Unit because of the lack of staff, especially an Executive Officer but also a permanent HR Manager and Finance Manager.

However, the following were also serious issues:

2.10.1 Budget

The most critical challenge for the CSU in 2014 was that of budget. This negatively affected the whole Ministry’s ability to perform. Retirement packages, Medical retirement, outstanding leave and overtime were unable to be addressed.

2.10.2 Leave Accruals & Overtime

With a hard working workforce and the commitment to proving 24/7 services, overtime and leave accrued. In VMGD with a staff of 87, 11 staff have over 100 days accrued leave, and 4 staff owed 247, 268, 377 and 457 days leave because there is no-one to replace them in their technical roles if they go on leave.

2.10.3 An Aging Workforce

Although many young graduates have been recruited into MCCA, making it an exciting energetic and well qualified workforce, it must be recognised we have an aging cadre of officers who have not only accumulated significant leave but will be retiring soon.

This creates an urgent need for Retirement & Succession Planning, including ensuring budget estimates in following years are sufficient to cover the substantial amounts needing to be paid to officers serving over 30 years.

2.10.4 HRD Strategy

Currently the Ministry is without an overarching HRD Strategy and this needs addressing to deal with the staffing issues above but also

- Cadet/Intern Program
- Study Support Policy
- PMRs & Salary Increments for Good Performance
- Filing & Archiving of HR records
- Capacity Building/ Training

CONCLUSION:

The Corporate Services Unit with hindsight, can look back to 2014 as the beginning of a role that is both one of leadership and of service to the other Departments and the Cabinet of the Ministry. The insights gained through the year will allow the fledgling CSU, with appropriate resourcing, to improve performance in the coming years to fulfil the vision of the Ministry and the Government of Vanuatu.

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Vanuatu Meteorology and Geo-Hazards Department

Annual Report 2014

Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

This document comprises of a collection of reports submitted by heads of different Divisions within the Vanuatu Meteorology and Geo-Hazards Department and compiled by the Director. These reports are against the 2014 Business Plans as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

Acknowledgements:

The Vanuatu Meteorology and Geo-Hazards Department would like to acknowledge and thank the Divisional Managers and their staff for their work in the creation of this document.

Please refer to this document in citations as:

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Acronyms	Definition
VMGD	Vanuatu Meteorology & Geo-hazards Dept.
NDMO	National Disaster Management Office
LiDAR	Light Detection and Ranging
ORSNET	Oceania Regional Seismic Network
IRIS	International Research Institute of Seismology
CTBTO	Comprehensive Nuclear-Test Ban Treaty Organization
ITIC	International Tsunami Information Center
UNESCO	United Nations Educational, Scientific and Cultural Organization
ICG	Intergovernmental Coordination Group
SEISCOMP	*SeisComP* (Seismological Communication Processor)
GNS	Geology and Nuclear Sciences (New Zealand)
WMO	World Meteorological Organization
PSO	Principal Scientific Officer
AusAID	Australian Agency for International Development
QCBS	Quality and Cost Based Selection
IRCCNH	Increasing Resilience to climate change and Natural Hazards
SANVU	Station name: Santo Vanuatu
IPGP	Institut Physique du Globe de Paris
IRHO	*Institut de recherches pour les huiles et oléagineux*
RSAM	Real time Spectral Amplitude Measurement
SSAM	Seismic Spectral Amplitude Measurement
CDC	Community Disaster Committee
SOP	Standard Operation Procedure
CEP	Communications, Engagement & Partnership Strategy
COPIWG	Communications, Outreach & Partnerships Internal Working Group
COSPPac	Climate and Oceans Support Program in the Pacific
SOPAC	South Pacific Applied Geoscience Commission
COMP	Climate and Oceans Monitoring and Predication
PSLM	Pacific Sea Level Monitoring
SPREP	Secretariat of Pacific Regional Environmental Program
NMHSs	Regional Conference on Management of National Meteorological and Hydrological Services
PTWC	Pacific Tsunami Warning Center
PTWS	Pacific Tsunami Warning System
NEOC	National Emergency Operation Center
ANR	Agence National de la Recherche
SCOPIC	Seasonal Climate Outlook in Pacific Island Countries
ENSO	El Nino – Southern Oscillation
NIWA	National Institute of Water and Atmospheric Research
GFCS	Global Framework for Climate Services
SPC	Secretariat for the Pacific Community
NMS	National Meteorological Services
NOAA	National Oceanic and Atmospheric Administration
GIZ	Gesellschaft für Internationale Zusammenarbeit
NGO	Non-Government Organization
NAB	National Advisory Board
ICT	Information Communication Technology

VRCS	Vanuatu Red Cross Society
DLA	Department of Local Authorities
FINPAC	Finnish Pacific Project
BOM	Bureau of Meteorology (Australia)
GCF	Global Climate Framework
WFSD	Weather Forecasting and Services Division
QMS	Quality Management System
ISO	International Organisation for Standardisation

SECTION ONE – OVERVIEW

Review of 2014 by the Director

The Vanuatu Meteorology and Geo-Hazards Department (VMGD) has implemented a comprehensive number of the activities laid out in the Business Plan during 2014. Each Division within the VMGD was allocated their operational budget to work with, and was to ensure that activities within their business plans were implemented. The new structure recently approved by the Public Service Commission at the beginning of the year is being implemented, and should take another year or two to be completed. The implementation of the new structure will see an increase in the number of staff within the VMGD to 89.

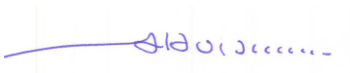
A new Strategic Development Plan (SDP) 2014-2023 was completed at the end 2013, and launched by the then Minister for Climate Change, the Hon. Thomas LAKEN early this year. The VMGD SDP is in line with the Corporate Plan and the National Plan (Priority Action Agenda), and will direct developments for the VMGD over the next 10 years.

The department continues to strengthen its human resource capacity. This year, a good number of staff have attended short, medium and long term courses, either locally or overseas. Most of these courses are funded from external sources.

The establishment of the Project Management Unit/Climate Change and Disaster Risk Reduction Division allows the VMGD to manage a number of climate change and disaster risk reduction projects to assist sectors to adapt and become resilient to climate variability and climate change.

The multi-hazard early warning centre for the VMGD continues to operate 24 hours a day, 7 days a week. The three projects, namely the Mainstreaming Disaster Risk Reduction Project, the Increasing Resilience to Climate Change and Natural Hazards Project, and the Improvement of Equipment for Disaster Risk Management Project all assisted the VMGD in strengthening its early warning system. The projects also assisted the department in improving its services to communities around Vanuatu.

I would like to take this opportunity to thank the Director-General of the Ministry, the line Departments and their Directors for the support given to enable 2014 to be a successful one. I would also like to thank the Divisional Heads within the VMGD and their staff for their tremendous efforts in making 2014 a very successful year.



David Gibson

Acting Director

About Vanuatu Meteorology and Geo-Hazards Department

The Vanuatu Meteorology and Geo-Hazards Department (VMGD) is a Department within the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management. The VMGD consists of seven Divisions, being: Administration, Weather Forecasting and Services, Climate; Climate Change/Project Management Unit, Geo-Hazards, Observations, and ICT/Engineering. These Divisions work together to ensure the core functions are carried out as indicated in the annual Business Plans, the Corporate Plan, and Vanuatu Priorities and Action Agenda.

1. Vision

The Vision of the VMGD is:

> *To be a world class meteorological and geo-hazards institution that contributes to the sustainable development of Vanuatu, and the Pacific region.*

2. Mission

The VMGD works to achieve its Vision by being:

> *A fully professional institution comprising skilled and motivated staff using updated and state of the art science and technology within an efficient and effective organisation, providing high quality meteorological and geo-hazards services that are widely available and accessible, effectively applied, beneficial and highly valued by all sections of the community in Vanuatu.*

Specifically, this is achieved through the excellence in the following areas:

- Excellence in weather and climate forecasting processes/products.
- Leading in climate change adaptation and mitigation implementation, monitoring, and negotiations.
- Active monitoring and state of the art implementation of early warning systems for geo-hazards.
- Accessing and supporting international and regional observation networks.
- Research and innovation targeting improved products and services to all stakeholders.
- Facilitating cooperation with respect to its monitoring networks.
- Implementation and use of cutting edge technology.
- Quality control systems in place with supporting administrative and financial resources in place.

3. Principles

The guiding principles of the VMGD are:

1. **Vanuatu focus:** The work of the VMGD is primarily focused on the effective delivery of meteorological and geo-hazards services for the benefit of the people and communities of Vanuatu, with its focus of development consistent with the priorities of the Vanuatu Priorities and Action Agenda.

2. **Partnerships:** Partnerships with the WMO, regional inter-governmental agencies and organisations, and technical partners are critical to the success of this Strategy. The participation of VMGD within a national and regional coordinated approach enhances effectiveness in increasing resources, while managing effort and potential overlap between agencies, organisations and development partners, especially where these are managed through national, bilateral and multilateral arrangements. Partnerships between VMGD and its counterparts in other Pacific Island countries have an important role in ensuring cooperation and sharing of lessons-learned within the region.
3. **Supporting gender equality and the most vulnerable in society**: VMGD accepts the need to operate and deliver services in ways that address and promote the principles of gender equality and the needs, both internally of the VMGD and in the development and delivery of VMGD services, to the most vulnerable in Vanuatu's society.
4. **Cost effectiveness:** Services should be delivered in an efficient, cost-effective way. The VMGD will endeavor to be strategic in the alignment of the development and delivery of VMGD services in ways that maximize the development support from national government and from regional partners.
5. **Sharing information:** The VMGD is committed to sharing data in line with national obligations and international policies; in particular the WMO commitment to free and unrestricted exchange of meteorological and related data and products (WMO Resolutions 40 and 25, respectively).
6. **Regional and global contribution:** The VMGD recognizes the regional and global character of weather, climate, and geo-hazards; and the need for an international approach that is consistent with relevant guiding regional frameworks amongst others, such as the Pacific Islands Meteorological Strategy, the Disaster Risk Management Framework and the Pacific Islands Framework for Action on Climate Change.

4. Objectives

VMGD aims to meet the growing demands of the Government of Vanuatu and all Ni-Vanuatu for improved meteorological and geo-hazards services that will:

- Ensure the safety, security and wellbeing of the people and communities of Vanuatu.
- Contribute to achieving national sustainable development.
- Fulfill Vanuatu's commitments and obligations under relevant regional and international agreements and conventions.

The objective of the VMGD is to meet the needs of all people living in Vanuatu for meteorological and geo-hazards information, understanding and services that are essential for their safety, security, and general well-being, and to ensure that meteorological and geophysical data and knowledge are effectively applied to Vanuatu's National Goals.

5. Areas of Responsibility

The VMGD provides products and services to all sectors and parts of the country, including warnings for severe weather, tropical cyclones, marine warnings and tsunami warnings. Its area of responsibility for meteorological and geo-hazard warnings includes 12°S to 23°S and 160°E to 175°E.

Locations

The VMGD has a total of seven observation stations throughout the country, with each weather station strategically located in each province. Sola Station is located in TORBA Province, Saratamata in PENAMA Province, Lamap in MALAMPA province, Pekoa in SANMA Province and Bauerfield in SHEFA Province. TAFEA Province has two observation stations, one on the island of Tanna and one on Aneityum. The head office of the VMGD is located at Nambatu, Port Vila, and houses all Divisions, including the Ministry of Climate Change, Corporate Service unit and the National Disaster Management Office (NDMO).

Outreach within Vanuatu

The VMGD continues to engage in outreach programs throughout the country. Establishing VMGD Communication and Outreach Partnership (COP) working group during 2014 was a strategic achievement for VMGD. VMGD COP working group which is made up of at least one rep form the 7 divisions within VMGD is Co-chaired by PSO Training and Community Liaison Officer and Information and Communication Officer within PMU. The group's main focus during 2014 was on Outreach activities such as community and schools awareness, Exhibitions, community group visits and schools careers talks. However due to funding limitations most of the Outreach activities were done around communities of Efate.

Regional and International Connections

The VMGD relies on regional and international partners to implement some of its core and planned activities, as the recurrent budget is not sufficient to carry out all activities stated in the Departmental Annual Business Plan. The VMGD is thankful for such assistance, and will continue to seek funding from these organisations now and into the future.

6. Programs, Functions and Sectors Served

The VMGD has seven major Divisions to carry out its programs and functions (see table below), they are: Administration Division, Weather Forecasting and Services Division, Climate Division, Climate Change and Disaster Risk Reduction/Project Management Unit Division, Observation Division, Geo-Hazards Division, and ICT and Engineering Division.

Table: VMGD Programs & Functions							
Administration	**Observation**	**Weather Forecasting and Services**	**Climate**	**Geo-Hazards**	**ICT and Engineering**	**Climate Change & DRR PMU**	**Programs**
Provides the VMGD leadership and management structures for the operations of the VMGD.	Maintains adequate observational networks, providing the required data and information needs of the VMGD Divisions and other national, regional, and international users and networks.	Provides timely and quality weather services and products to the general public, mariners, and commercial end-users Provides timely warnings on severe weather events	Provides climate data and information, long term forecast and ENSO information	Delivers quality services and products on geo-hazards and related phenomena to mitigate against potential impacts of geological hazards (earthquakes, tsunamis and volcanic eruptions)	Enables the VMGD to adapt to technological changes and use up-to-date, modern and sound infrastructure and ICT to support all VMGD's services.	Manages and operates the implementation and integration of climate change and disaster risk reduction programs and projects to support national level commitments to Climate Change and Disaster Risk Management multilateral agreements.	**Functions**
VMGD Management Team, All VMGD staff, Line Departments, WMO and other regional organisations	VMGD, Other National Meteorological Services	All sectors	All sectors	All sectors	VMGD, Line Departments	All sectors	

Divisions

The **Administration Division** provides leadership and management structures for the operation of the VMGD. Given the relatively rapid development of the VMGD over the past decade it has acquired the appropriate and relevant capabilities for capacity building and resource support for the increasingly wide array of services that it provides, and the resources that go with supporting those services. This Division works closely with the Ministry to ensure the Strategic Plan, the Annual Business Plan and the Corporate Plan are developed and implemented.

The **Weather Forecasting and Services Division** provides timely and quality weather services and products to the general public, mariners, and commercial end users, via qualified meteorologists and through the deployment of the appropriate and state of the art weather forecasting systems.

The **Climate Division** provides climate information, long term forecasts, services and warnings. Through its qualified staff, modern and sound technology the Climate Division analyses climate and

related environmental data to monitor, predict and provide climate and other related environmental information, forecasts, advisories and warnings.

The **Climate Change and Disaster Risk Reduction Division** manages and operates the implementation and integration of climate change and disaster risk reduction programs and projects to support national level commitments to Climate Change and Disaster Risk Management multilateral agreements.

The **Geo-Hazards Division** is a highly effective and efficient Division delivering quality services and products on Geo-hazards and related phenomena using modern science and technology to mitigate against potential impacts of geological hazards (earthquakes, tsunamis and volcanic eruptions) by preventing disastrous consequences on the people, environment and economy of Vanuatu.

The **Observations Division** maintains adequate observational networks to provide the required data and information needed within VMGD and for other national, regional and international users and further networks. The Division installs, maintains and updates all observational networks that provide adequate coverage, real-time, accurate and high quality observation data for weather, climate and water. The Division also works closely with regional and international technical partners to meet the VMGD's network data and information reporting obligations.

The **ICT and Engineering Division** ensures the VMGD uses up-to-date, modern and sound infrastructure to support all the services of the VMGD. It also ensures there is sound ICT equipment and that there are all other necessary assets for data processing; as well as the required interfaces for all Divisional requirements, including support for corporate and administrative functions.

7. Structure and Staff

Structure

The new structure to reflect the amalgamation of Meteorology and Geo-Hazards was approved on the 29th January 2014. In the new structure a total of 89 positions and Job descriptions were created and approved by the PSC for VMGD. The Structure consist of six Divisional Managers, a Deputy Director and a Director.

Staff

The table below shows the number staff per divisions and against their employments and gender.

Divisions	Male Staff		Female Staff		Total Staff	Remarks
	Permanent	Temporary	Permanent	Temporary		
Administration	3	1	4	1	8	I AVID volunteer
Weather Forecasting	5	2	1	1	9	
Climate Serves	5	0	2	2	9	1 Officer on secondment and 1 on Study Leave
Geo-Hazards	1	1	2	2	5	1 World Bank Support Staff
Weather Observation	15	4	1	1	21	1 officer on study leave and 1 AVID Volunteer

Climate change (PMU)	1	2		3	6	Almost 10 Project Consultants
ICT & Engineering	6	3	2		11	

8. Funding Basis

The total budget allocated and appropriated by Parliament to cover operations of VMGD for 2014 was 143,464,919 vatu, of which 107,056,254 vatu went to Salary/Personnel Expenses and 36,408,665 vatu went to operations. The VMGD has seen an increase in its Annual Budget of 7%, when compared to the 2013 Annual Budget.

The establishment of the Project Management Unit allows the VMGD to manage a number of aid projects, mostly in the area of climate change adaptation and disaster risk reduction. The two main large-scale projects are: Increasing Resilience to Climate Change and Natural Hazards (US $ 11,100,000) and Mainstreaming Disaster Risk Reduction (US $ 7,200,000). Most of the components of the two major projects are executed in other sectors, with the management of the project within the Project Management Unit. Another major project, Improvement of Equipment for Disaster Risk Management (300,000,000 vatu), funded by the Japanese Government, will be completed in 2015.

About this Annual Report

This report outlines major developments and initiatives carried out by the VMGD in 2014.

1. Reporting Requirements

It is a requirement of the Public Service Commission (PSC) that all institutions provide Business Planning on an annual basis.

2. Reporting Processes

This document comprises of a collection of reports submitted by heads of different Divisions within the VMGD and compiled by its Director. These reports are against the 2014 Business Plans as required by PSC through the Director-General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

SECTION TWO - PERFORMANCE 2014

Department Performance Overview

The VMGD's performance in of 2014 was above average, with more than 80% of the planned activities carried out.

An overview of VMGD's performance for 2014 is given in the table below.

Table: VMGD Department Performance

Key Area	Key Results and Highlights
Policy	Climate Change and Disaster Risk Reduction Policy is in draft format, awaiting finalization Concept note on the transfer of Hydrology (science) has been developed and submitted to the Minister Concept note on the creation of a cost recovery unit has been developed, and awaiting implementation Concept note on setting a Melanesian Meteorological Society/Body is being developed and submitted to the MSG for their approval
Programs/Functions	All Divisions carried out their functions as expected.
Outreach	The VMGD has set up a working group named Communication and Outreach (COP) to oversee this function
Research and Development	The VMGD has set up a working group named Research and Development Working Group, to oversee research and development activities within VMGD
Infrastructure	The Improvement of Instruments for Disaster Risk Management Project, funded by JICA, Japan is currently being implemented. By April 2015, two automatic weather stations, two tide gauges and two seismic stations are to be installed and in use.
People	The staff are one of the main assets of the VMGD. VMGD continues to ensure staff attended short, medium and long-term courses.
Finances	The annual budget for 2014 sees an increase of 10 million Vatu when compared to 2013

Performance by Division

1. Administration Division

Division Purpose and Key Outcomes

The Administration Division provides the VMGD leadership and management structures for the operations of the VMGD. Given the relatively rapid development of the VMGD in the past decade, the Directorship and Corporate Division have sought the appropriate and relevant capacity building and resource support for the increasingly wide array of services the Administration Division provides, as well as building the resources to support those services that go with it.

The Administration Division continues to ensure that it has the necessary and appropriately skilled staff in relevant fields (finance, administrative and human resources) to have an effective administrative component which assures the operation of the various Divisions. The Division also

strives to equip the VMGD with the highest possible degree of all resources allocated to it for its operations. The Division, in close consultation, continues to develop appropriate policy documentation to cover the management and operation of the VMGD.

The Division ensures that Business Plans from each Division are carried out in accordance with the financial resources available at the VMGD.

2014 Priority Activities and Results – Administration Division

Programs and Objectives required by the 2014 Business Plan are summarized in the table below with results and commentary provided.

Table: Programs, Objectives and Results – Administration Division (Business Plan)

Programs	Objective (Targets)	Result ✓✖	Result Summary
Amalgamation	To implement the amalgamation of Meteorology and Geo-Hazards Departments.	✓	The revised structure was approved by the PSC, and is now being implemented. Budget has been allocated to recruit additional staff, particularly for the Geo-Hazards and ICT Divisions.
Strengthening Operations	Deliver better services more effectively. Transfer of Hydrology to VMGD	✓	Services provided by VMGD continue to be improved. Concept Paper on the transfer of hydrology (Science) to VMGD has been developed and submitted to the Minister
	Purchase of three new vehicles and trade the three old, existing ones.	✖	VMGD has purchased two new vehicles. It is anticipated that another vehicle will be purchased toward the end of 2015.
Policy and Legislation	Develop policy and legislation for organizational operations and decision-making.	✓	Two policies were developed within the VMGD: Quality Management System Policy and Climate Change Policy. The latter is yet to be approved.
	Develop Policy and Directives.	✓	Directives are reviewed yearly to be in line with all changes.
Operational Procedures	Develop operational procedures for effective work practices and processes.	✓	The operational procedures for the Forecasting Division, the Climate Division and the Observations Division were completed, and are continuously reviewed each year. Some procedures for the ICT Division have been completed. Geo-Hazards Division procedures are currently in draft format.
	Establish Trilateral and multilateral agreements for emergency response,	✓	MoU agreements have been signed with the following organisations:

	research programs and data sharing.		1. Department of Agriculture 2. NDMO 3. VBTC 4. Vanuatu Red Cross Society 5. Vanuatu Cultural Centre 6. GIZ
Quality Management System	Implement and sustain QMS on services to Aviation and Marine sections.		QMS continues to be implemented within VMGD, focusing mainly on Aviation Services. Competency tests were also carried out, as required under ICAO.
VMGD Strategic Plan	Complete Strategic Plan.	✓	The VMGD SDP has been completed and launched. The first review of the strategic plan will occur during May of 2015
Annual Report	Develop appropriate monitoring and reporting systems to meet the required public service standard.	✓	The VMGD continues to prepare Bi-annual and Annual reports as per the requirements of the PSC.
Build new office building for outer islands		✖	Budget constraints did not allow this activity to eventuate.
Opening of New Building		✖	This has not been achieved.

Human Resources and Training

Table: Programs, Objectives and Results – HR and Training (Business Plan)			
Programs	**Objective (Targets)**	**Result ✓✖**	**Result Summary**
Human resource and Capacity Building	Increase capacity and knowledge of every staff member at all levels as identified in the performance gap analysis.	✓	Progress of the Training Gap Audit report for most staff.
	Attend overseas and local short-term training workshops.	✓	Attend all fully funded trainings (overseas and local) that were available during 2014
	To ensure VMGD staff attend further long term training.	✓	Mr. Tigona on his second year at USP, Fiji doing his PHD.
	To Identify long term training.	✓	Mike Waiwai and Melinda Natapei continuing extension courses at the USP.
	To assist the MCCND.	✓	From Jan to Nov 2014, VMGD PSO-Training and community Liaison officer was performing the roles & responsibility of the HRM in the Ministry.
Capacity Building in VMGD	To build administrative management and supervisory skills and capacity in VMGD.	✖	There were no specific administration management training due to financial limitations.

	To build and improve staff performance as outline in Training Gap Audit.	✓	Continue to progress the Training Gap Audit reports for each staff.
HR Internal Policy	To ensure appropriate and effective procedures are in place for officers to access their entitlements.	✓	Frequent emails and verbal communications about the PSC Staff Manual, including staff entitlements from PTO to Managers.
Retirement	To ensure and facilitate the retirement of staff.	✓	No Retirements
Recruitment	To coordinate and facilitate the recruitment within the VMGD.	✓	Amalgamation structure of VMGD was approved in Late Jan 2014. All permanent staff with same salary were transferred into the new structure. However those with change of salary were acting on their positions for 6 months and later appraised and appointed by the end of 2014.
Appraisal Assessment	To carry out performance appraisal of each officer.	✘	Performance appraisal was done for all staff including the temporary salaried staff in August 2014.

Table: Programs, Objectives and Results – HR and Training (Additional Activities)

Programs	Objective (Targets)	Result ✓✘	Result Summary
Community and educational Awareness	Community awareness.	✓	Church afternoon and evening programs. Community requesting talks on specific topics.
	Visits to the Dept.	✓	Church Youth groups, school and community groups and nurses visit.
	Careers talk in school.	✓	Visited Ulei and Montmart secondary School for careers presentations.
	Participate in National programs.	✓	WMO & WWD (22nd & 23rd March), Environment week (5th June).
Overseas missions	Facilitate the logistics of staff going on overseas missions.	✓	All fully funded trainings were attended by the Divisions concerned. Most of the staff in each Division had a chance to attend one overseas mission.
Communication and outreach	Implement COP Strategy.	✓	CEP Strategy guided the outreach activities of VMGD in 2014.

Strategic Development Plan 2014-2023

The VMGD has launched its Strategic Development Plan (SDP) 2014-2023. The plan is in line with the Ministry's Corporate Plan and the National Plan (PAA), and is also reflected in the Annual Departmental Plan.

Within this overall context, the specific objectives of the SDP are to:

- Provide the guiding framework for VMGD's development priorities.
- Guide national planners, donors and partners to focus on priority capacity building activities and transfer of technology identified by the VMGD that may be delivered either through national budgetary mechanisms, bilaterally and/or through regional and international approaches.
- Guide the VMGD towards critical activities aimed at building and/or strengthening capacity and planning.
- Guide the VMGD with respect to supporting priority actions at the regional level.

VMGD Structure

Overall the approved amalgamated structure of Meteorology and Geo-Hazards has 89 positions and approved Job Descriptions. It is expected that by the end of 2016 all vacant positions within the structure will be recruited and occupied with permanent officers.

VMGD Finances

The total budget allocated and appropriated by Parliament to cover operations of VMGD for 2014 was 143,464,919 vatu, of which 107,056,254 vatu went to Salary/Personnel Expenses and 36,408,665 vatu went to operations.

Expenses Detail Report — Government of Vanuatu

For transactions between 1 January 2014 and 31 August 2014 — **Extracted on 11/08/14 11:23**

Filters Applied to this Report	
Fund	2-Recurrent Fund
Ministry	M20-Ministry of Climate Change Adaptation, Geo-hazards, Meteorology and Energy
Dept.	75-Vanuatu Meteorological Services
Cost Centre	
Activity	
Job Code	
Currency	Vatu
Book	Primary Book (vatu)

Account	Description	Actual	Commitment	Total	Budget	Under/(Over)
	Personnel Expenses					
8AAA	Acting Allowances	1,966,209	-	1,966,209	333,328	(1,632,881)
8AAB	Responsibility Allowance	-	-	-	200,000	200,000
8AAD	Shift Allowance	316,667	-	316,667	-	(316,667)
8AAF	Family Allowance	568,008	-	568,008	1,888,031	1,320,023
8AAH	Housing Allowances	3,111,195	-	3,111,195	6,345,966	3,234,771
8AAO	Other Allowances	5,000	-	5,000	-	(5,000)

8AAP	Home Island Passage Allowances	214,923	-	214,923	3,965,512	3,750,589
8AAS	Special Allowances	416,108	-	416,108	653,413	237,305
8ASP	Provident Fund	1,909,627	-	1,909,627	2,685,087	775,460
8AWD	Daily Rated Wages	2,057,112	92,510	2,149,622	-	(2,149,622)
8AWO	Overtime Wages	6,833,140	-	6,833,140	3,977,004	(2,856,136)
8AWP	Permanent Wages	37,643,053	-	37,643,053	60,608,608	22,965,555
PAYR	Payroll expenses	-	-	-	(11,801,681)	(11,801,681)
	Personnel Expenses	**55,041,042**	**92,510**	**55,133,552**	**68,855,268**	**13,721,716**
	Operating Expenses					
8CAB	Subsistence Allowances	1,415,000	-	1,415,000	681,144	(733,856)
8CBI	International Accommodation	-	-	-	57,480	57,480
8CCL	Local Courses	27,090	-	27,090	232,768	205,678
8CET	Other Fees	53,041	-	53,041	76,880	23,839
8CFV	Vehicles Fuel	792,442	116,001	908,443	862,224	(46,219)
8CGM	Mail Carriage Freight	-	-	-	336,848	336,848
8CGO	Other Charges - Freight	53,617	3,000	56,617	83,344	26,727
8CGR	Transport - Freight	78,943	-	78,943	124,728	45,785
8CGS	Storage - Freight	-	-	-	102,744	102,744
8CIE	Equipment Hire	84,444	-	84,444	96,280	11,836
8CIF	Facilities Hire	-	-	-	19,400	19,400
8CIV	Vehicles Hire	-	-	-	12,936	12,936
8CJO	Office Cleaning	355,662	25,000	380,662	271,304	(109,358)
8CKD	Advertising - Communications	11,000	-	11,000	142,264	131,264
8CKI	Internet and Satellite Communications	13,933	-	13,933	-	(13,933)
8CKP	Postage - Communications	18,338	9,102	27,440	96,344	68,904
8CKR	Printing - Communications	1,148,791	51,530	1,200,321	278,712	(921,609)
8CKS	Stationery - Communications	910,482	-	910,482	667,920	(242,562)
8CKT	Telephone / Fax - Communications	2,055,146	71,890	2,127,036	757,016	(1,370,020)
8CMG	General - Materials	785,211	70,689	855,900	64,672	(791,228)
8CMO	Office - Materials	-	-	-	12,936	12,936
8COF	Refunds	657,964	-	657,964	-	(657,964)
8COI	Incidentals	742,470	36,000	778,470	845,368	66,898
8COP	Official Entertainment	953,016	75,455	1,028,471	344,888	(683,583)
8COU	Uniforms	265,868	-	265,868	-	(265,868)
8CRB	Buildings Repairs & Maintenance	394,268	-	394,268	717,896	323,628
8CRE	Equipment Repairs & Maintenance	247,121	-	247,121	418,256	171,135
8CRH	Houses Repairs & Maintenance	46,257	17,566	63,823	378,944	315,121
8CRV	Vehicles Repairs & Maintenance	566,114	16,071	582,185	456,976	(125,209)
8CSO	Other Suppliers	3,498	-	3,498	-	(3,498)
8CTI	International Travel	152,640	86,160	238,800	262,968	24,168
8CTL	Local Travel	1,039,310	250,406	1,289,716	923,760	(365,956)
8CUC	Gas - Cooking Utilities	8,000	-	8,000	-	(8,000)
8CUE	Electricity Utilities	2,444,020	-	2,444,020	5,416,344	2,972,324

8CUW	Water Utilities	28,381	25,388	53,769	206,936	153,167
8CWL	Local Workshops	-	-	-	784,600	784,600
8CZV	Value Added Tax	1,629,722	236,754	1,866,476	2,155,504	289,028
8EBR	Buildings - Renovation	-	-	-	402,368	402,368
8EEA	Equipment - Additional General	95,912	57,689	153,601	377,944	224,343
8EEC	Equipment - Computer	521,854	-	521,854	387,968	(133,886)
8EER	Equipment - Replacement General	-	-	-	129,328	129,328
8EFO	Furniture - Office Furniture	-	-	-	180,600	180,600
8EHR	Houses - Renovation	-	-	-	103,464	103,464
8EVR	Vehicle - Replacement	-	-	-	1,846,584	1,846,584
8FCB	Bank Charges	10,000	-	10,000	-	(10,000)
OVER	Overhead expenses	-	-	-	-	-
	Operating Expenses	**17,609,555**	**1,148,701**	**18,758,256**	**21,318,640**	**2,560,384**
	Total Expenditure	**72,650,597**	**1,241,211**	**73,891,808**	**90,173,908**	**16,282,100**

Communication, Outreach and Partnership (COP) Strategy 2014 - 2017

After the launching of the initial Communication and Engagement and Partnership (CEP) Strategy in 2012, the Strategy was reviewed in 2014 and linked to the VMGD Strategic Development Plan for the 2014 - 2020 which references Communication, Outreach and Partnership (COP) activities. In line with the COP strategy, VMGD used its communication channels and those established by other Government Departments, NGOs and Civil Society to share and receive information, knowledge and actions on meteorological and geo-hazard issues.

During 2014, VMGD management established the VMGD Communication, Outreach and Partnership Internal Working Group (COPIWG) including developing terms of reference (TOR) for the group. The group was co-chaired by the PSO Training and Community Liaison Officer and the PMU Information and Communication Officer and was made up of at least one representative from all 7 VMGD Divisions. Since 2012 AVID has supported VMGD COP, and in 2014 the COPIWG was very fortunate to have the invaluable contribution and expert guidance of Ms. Tricia Wilden. The monthly meetings of the COPIWG were the main avenue for division representatives to bring their COP related activities to the table and the COPIWG made proposals as to the management of strategies and presented options as to how to carry out the activities.

Completed COP activities appear in the reports of each of the Divisions, however an example of activities undertaken that support each of the core objectives appears below:

TABLE: COP OBJECTIVES AND EXAMPLES	
OBJECTIVE	**EXAMPLES**
Materials from VMGD	• Climate Division and partners developed the Klaod Nasara weather and climate animation and toolkit. In 2014 COPIWG supported a provincial Workshop that was held in Lakatoro to present a workshop on the Klaod Nasara weather and climate animation and toolkit to nearby communities including the rainfall monitors. • Provincial signboards have been erected in at least 3 provinces with contracts signed with the SGs and VMGD for the maintenance of the signboards.

Use VMGD's Provincial Network	VMGD's rainfall network received training on how to conduct Klaod Nasara activities in their community.
Build relationships and partnerships	Key Vanuatu media attended more than one VMGD-organised briefing on weather, climate and geo-hazards products and services.
Build technical knowledge	VMGD through its divisions conducted community trainings and awareness-raising activities, held open days, and conducted outreach activities.
Monitor and Evaluate	VMGD commenced work on developing an M&E system.
Maintain Trust in VMGD	• VMGD launched National Warning Centre to provide early and on-going warnings regarding natural hazards. • VMGD organized a VMGD-NDMO workshop to review and align their Standard Operating Procedures.
Sustainability	• VMGD resubmitted an application for an AVID ARC Volunteer to support the Department and its Divisions achieve their aim of mainstreaming COP activities into the organization. • VMGD established the COPIWG.

Achievements Comment

There were many developments within the VMGD in 2014. More than 80% of activities stipulated in the Division Business Plans were implemented across all Divisions, funded either through the recurrent budget or through regional funding and/or bilateral aid.

A high number of trainings were conducted over the course of the year thanks to donor funding. Most trainings were short term (less than 5days), but one staff member from the Forecasting Division and one staff member from the Climate Division completed longer term training, WMO Class 1 and PHD studies respectively.

At the national level, the creation of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management is seen as a huge success for the VMGD, as it reflects that the National Government sees the importance of the role played by the VMGD on the issues of weather, climate variability, climate change, disaster risk reduction, mitigation and early warning systems. Vanuatu is an island nation that is very vulnerable to natural hazards[1]. In light of that fact, the establishment of the Ministry by the current government reflects an important mandate; to save lives and property, as well as reduce the risk of these natural hazards in the short, medium and long term, through better planning.

The VMGD hosted the 15th WMO Tropical Cyclone Committee Meeting at Le Lagon, Port Vila, between the 26th to the 30th of May 2014. It was a 5 day event, with participants coming from the South West Pacific Countries, Australia, New Zealand, the US, and Indonesia. The meeting covered many aspects of the Tropical Cyclone Warning System used in Region Five. The meeting was well hosted, and was praised by the secretariat of the WMO.

[1] Highest World Risk Index to Natural disasters; http://en.wikipedia.org/wiki/List_of_countries_by_natural_disaster_risk

In general 2014 saw many achievements from each Division, each reflected in this annual report. At the Directorship level, the highlights of 2014 were: the launching of the strategic development plan for the VMGD for 2014-2023, the approval of the revised structure which will increase the number of the staff to 89 within the next two years, the implementation of the current approved structure, the continuous weather watch 24 hours a day/7 days a week, and the continued modernization of VMGD through various projects that will be implemented within the next two to three years. Additionally, the VMGD has recently established a Research and Development Working Group, as well as developed its Terms of Reference. The Terms of Reference gave guidelines on how the working group will function now and in the years to come.

The success of a Government organisation is measured on the services it provides to Vanuatu's population; importantly the number of services provided by the VMGD continues to grow. The VMGD continues to find ways deliver these services to the 'the last mile', and this includes building partnerships with various organisations, both government and non-government organisations.

Challenges Comment

The VMGD faced many challenges when trying to implement its plan in 2014. One primary challenge is the recurrent budget, which at times proves insufficient to assist Divisions in implementing all of their activities described in the business plan. Communicating products and services, particularly warnings, to remote communities in Vanuatu is also a challenge. This report below will detail each of the unique challenges specific to each Division in greater detail.

Staffing

The table below provides information about VMGD staffing in 2013/2014:

Table: Staffing – Total Department	Details

Numbers:	Over 70 staff were employed by VMGD and its supporting projects. Of the total 69 staff within VMGD, almost 70% are permanent, with 30% on temporary employments. Approximately 31% of staff employed in 2013 were female. This shows a marked increase when compared to early 2000 when the ratio was approximately 5% female and 95% male staff.
Performance Appraisals Conducted	All staff were appraised and transferred into the new structure.
Study Leave:	Two (2) staff on long term training leave - Silas Tigona at USP from 2013 – 2015 completing his PHD - Jerry Timothy completed his WMO Class 1 at the Bureau The VMGD also participated in fully funded short-term training/workshops and meetings regionally and Internationally.
Secondment:	Salesa Kaniaha is on secondment with SPREP until the end of 2015.
Annual Administration Leave:	A total of 49 staff took Administration Leave with timeframes ranging from a minimum of 2 working days to 2 months.
Other Leave/Resignation/Retirement:	Mr Breisa Fataba retired in March 2014.

2. Weather Forecasting & Services Division (WFSD)

Division Purpose and Key Outcomes

The Weather Forecasting & Services Division contributes to the Department's purpose by providing timely and quality weather services and products to the general public, mariners, the aviation sector, and the commercial end users, via qualified meteorologists deploying appropriate and state of the art weather forecasting systems.

The purpose of the WFSD is to continuously monitor and ensure that all the Division's products and services are delivered in a timely manner. As well as to further ensure quality services and products by way of recruiting the best qualified science graduates for deployment as qualified meteorologists. As well, the Division regularly assesses and evaluates its weather forecasting systems to ensure the state of the art and most appropriate technologies are being deployed to produce quality services. Finally, the Division is also responsible for the delivery of a Quality Management System (QMS) to monitor, evaluate and improve the Division's products and services standards.

The key strategic outcomes for the Weather Forecasting & Services Division are as follows:

1. Improve weather information, forecasts, services and warnings for air navigation.
2. Improve weather information, forecasts, services and warnings for mariners.
3. Improve weather information, forecasts, services and warnings for the public and communities.
4. Improve tropical cyclones warning system, information, forecasts, services and warnings.
5. Develop and provide information, forecasts, services and warnings for storm surges, swells and high waves.
6. Develop, establish and operate an early warning system for floods.

2014 Priority Activities and Results – Weather Forecasting & Services Division

Weather Forecasting & Services Division (Business Plan)			
Programs	**Objective (Targets)**	**Result ✓✖**	**Result Summary**
24-hours Operations	Provide 24-hour weather watch forecast	✓	24/7 operations sustained
Weather on TV	Provide weather presentation on TV	✖	TV Weather Presentation, available daily on National TV and uploaded on Website
Services from the National Forecasting Center	Maintain all current forecast services, strive for improvement as well as add additional services	✓	Maintenance of the current forecasting services, continuous improvement and integration of additional services
Quality Management System	Attain ISO 9001:2008 Certification	✖	Continuous Quality Management System implemented for aviation

			Services, continuous customer feedback ISO 9001: 2008 Certification by Novemzber 2014
All Forecasters to be graduated	Upgrade Human Resources	✓	Services improved to meet national and international standards
Improve forecast preparation and dissemination	Develop forecasting automated software	✖ ✖	Software to be used by end of 2014. Improve VMGD Website, automated product/service upload by end of 2014
Prepare Annual Report	Monitor and evaluate the overall work of the division	✓	Annual Report draft

Products & Services Provided by WFSD in 2014

There were no additional services or products introduced into the WFSD programs for 2014. The usual services carried on from 2013 are listed below.

Public Weather Forecast

1. Forecast Policy is prepared and uploaded on website and accessible on: http://www.meteo.gov.vu/Forecasts/ForecastPolicy/tabid/126/Default.aspx
2. 7-Day forecast for six provincial centres, issued twice a day via client email list and uploaded on: http://www.meteo.gov.vu/Forecasts/7DayForecastforSelectedCentres/tabid/192/Default.aspx
3. Public Forecast is prepared and sent to the national Radio, FM stations every four to five hours a day, and uploaded on website which is accessible on: http://www.meteo.gov.vu/Forecasts/MediaForecast/tabid/283/Default.aspx
4. Media forecast for Weekly IPV, Independent Newspaper and daily forecast for Daily Post Newspaper which is accessible on: http://www.meteo.gov.vu/Forecasts/MediaForecast/tabid/283/Default.aspx
5. Hourly images are uploaded on the VMGD's website: http://www.meteo.gov.vu/MapsandCharts/LatestSatelliteImage/tabid/82/Default.aspx
6. Vanuatu Cities forecast is prepared and sent via email to the World Cities Forecast of the WMO every 24 hours

Marine Weather Forecast

1. Seven. 4-Day coastal Marine forecast including wave and swell heights, issued twice a day. The marine forecast covers six boundaries: The Northern, Central, Channel between Efate and Erromango and the Southern waters including Port Vila and Luganville Harbours is uploaded on: http://www.meteo.gov.vu/Marine/tabid/65/Default.aspx
2. High Seas forecast for Vanuatu area (12S160E 12S175E 23S160E and 23S175E) is prepared and uploaded on website every twelve hours. This can be accessed on: http://www.meteo.gov.vu/Marine/HighSeasForecast/tabid/293/Default.aspx

Aviation Weather Forecast

Aviation Forecasts (TAF, ARFOR, TTF and ROFOR)

1. TTFs are prepared and issued only for international aerodromes (NVSS, NVVV and NVVW) when weather warranted. This uploaded in website and can be access on: http://www.meteo.gov.vu/AviationForecasts/TrendForecast/tabid/127/Default.aspx
2. TAFs for all seven aerodromes (NVSC, NVSS, NVSG, NVSL, NVVV, NVVW, NVVA) are prepared and sent six hourly through GTS, to pilots email group and also uploaded on: http://www.meteo.gov.vu/AviationServices/TerminalAerodromeForecasts/tabid/222/Default.aspx
3. ARFOR – Area Forecast for the whole Vanuatu group is prepared and sent through GTS, to pilots email group and also uploaded on: http://www.meteo.gov.vu/AviationServices/AreaForecast/tabid/223/Default.aspx
4. ROFOR-Route Forecast is prepared and issued to Air Vanuatu for its international flights as per its International weekly flight schedules.

Weather Warning

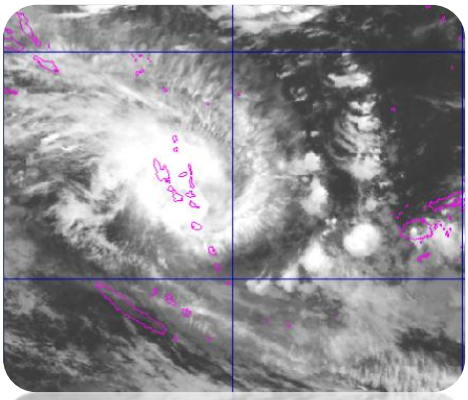
- Marine wind warning or strong wind warning issued six hourly only when weather warranted
- High Seas wind warning issued only during tropical cyclones and or during a tropical low for Vanuatu area
- Tropical Cyclone three Day outlook is prepared and uploaded on website twice a day only during cyclone season from the beginning of November 2013 till end of April 2014.
- Tropical Cyclone Information, Advisories and Warnings are prepared and sent to tropical cyclone subscribers for any system which may be formed within Vanuatu's area of responsibility from the beginning of November 2013 January till end of April 2014.
- Tropical Cyclone Forecast Track Map is prepared and sent to tropical cyclone subscribers only during a cyclone event affecting Vanuatu. This map indicates the past track and the next 48 hours forecast track.
- Severe weather warnings issued for heavy rainfall ≥100mm/24hr and inland winds of ≥40km/hr
- Tsunami information and advisories are prepared and issued with three hours validity only when there is an earthquake triggering a tsunami and posing a threat to Vanuatu.

Tropical Cyclone Occurrences during 2013-2014 Tropical Cyclone Season

Tropical Cyclone Outlook for 2013-2014 released by Climate Division indicated that Tropical cyclone activity between Vanuatu and New Caledonia as well as east of the International Date Line was likely to be close to normal or below normal activity levels throughout the whole of the season while countries west of dateline was likely to be close to normal activity levels because of ENSO neutral conditions.

TC LUSI

Tropical cyclone Lusi started as a tropical low on the 8th of March 2014 east of Vanuatu and travelled as a tropical low westwards crossing South Maewo, East Ambae and Santo Island. The first Advisory was issued at 5pm on Sunday, 9 of March 2014. By 8am on Monday, 10 March 2014, the tropical low was located north northeast of Santo Island with central pressure estimated at 990 hpa and winds close to the center estimated at 55 KM/HR (30 knots), the Advisory was upgraded to Warning level particularly for TORBA, SANMA, PENAMA and MALAMPA provinces.



At 11:00 am on the 10th of March, the tropical low was named Tropical Cyclone **Lusi** (Category 1) with central pressure estimated at 990 hpa and winds close to the center estimated at 85 KM/HR (40 knots). Tropical cyclone Lusi continued to move in a South Southeast direction with its damaging gale force winds of 85 KM/HR were affecting TORBA, SANMA, PENAMA and MALAMPA provinces. Lusi tracked southerly between the islands of PENAMA, SANMA, and MALAMPA provinces. The system was then upgraded to Category 2 at 2 pm on the 11th of March when it was almost 20 kilometers west of Ambrym Island. TC Lusi travelled south then southeast as a Category 2 system with winds close to the center estimated at 95 KM/HR making land fall on Epi Island and continue heading east southeast further to the east of Efate and the Tafea province.

Landslide in Santo during TC Lusi

TC Lusi continued to intensify to Category 3 after leaving Vanuatu islands. The final warning was issued at 5 pm on the 12th of March, by this time Lusi was about 280 Kilometers east of Erromango and was moving east southeast.

There were a total of 10 casual ties associated with Tropical Cyclone Lusi passage over Vanuatu Islands with 8 causalities reported on Santo Island where people were buried alive by landslide, 1 on Pentecost and 1 on Malekula.

Number of Tropical Cyclone Bulletins issued for TC Lusi

Tropical Cyclone	Information Bulletins	Advisory Bulletins	Warning Bulletins	Forecast Track Maps
TC Lusi	0	3	20	23

Tsunami generated and expectation of threat to Vanuatu islands during 2014

The WFSD is also mandated to issue Tsunami Information and Advisories if there is an earthquake triggering tsunami that will be an imminent threat to Vanuatu Islands. During 2014, WFSD has issued Tsunami Advisories for only one tsunami event on the 14th of April where an earthquake of magnitude Mw 7.7 which had occurred near the Solomon Islands. Earthquakes of this size have the potential to cause destructive tsunami that can strike coastlines near the epicenter within minutes and more distant coastlines within hours.

A total of **4** Tsunami Advisory Bulletins were issued for this event. There were no direct impacts reported on any islands of Vanuatu.

Other Notable Developments

- WFSD was represented at the South West Pacific Tropical Cyclone Committee meeting which was held at Le lagoon Hotel in Port Vila, between the 26th to the 30th of May 2014.
- WFSD fully engaged in the annual events of ICT & WMO Day activities as part of panel discussions, giving out presentations and brochures to students and the general public.
- Senior Forecaster position had been upgraded to Principle Scientific Officer position, Public and Commercial Services.
- Promotion of 3 WSFD staff to new posts in line with the new structure. Fred Jockley was promoted to manager position, Allan Rarai to PSO, Public and Commercial Services and Tom Natick to Forecaster position.

Delegates of the TCC meeting visitation to the Weather Forecasting & Services Division, VMGD building.

Training and Human Resource Development

- Jerry Timothy attended the WMO Fellowship (Diploma in Meteorology) at the Bureau of Meteorology in Melbourne, Australia.
- Allan Rarai and Sophie Turere from Geo-Hazards Division attended the IOC ITIC Training Programme for Pacific Island Countries on PTWC New Enhanced Products, Nadi Fiji, may 2014
- Tom Natick attended a three months training on Reinforcement of Meteorology in the South Pacific from October to December 2014
- Allan Rarai also attended a workshop on Third Flood Risk Management and Urban Resilience Workshop in Manila, Philippines from 2 to 9 June 2014.
- Tropical Cyclone Analysis In house training October/November 2014
- Fred Jockley –WESTPAC Training Course on Climate Models at IOC Regional Training and Research Center on Ocean Dynamics and Climate, Qingdao, China, 31 Oct-15 Nov 2014.
- Moirah Yerta- Tsunami Workshop, Apia Samoa 12-17 October

Achievements Comment

The 24/7 shift continues to be well managed since its introduction at the end of 2011. The WFSD continues to maintain the quality of the weather forecasting services and improving on all the current products, whilst endeavoring to meet the needs of the end users. As far as the human resources capability is concerned, WFSD is manned with 4 WMO class I Forecasters, with one staff member currently on WMO fellowship at the BoM. There are some areas with room for improvement which include: Weather TV presentation production, development of an automated dissemination software, improvement of the website and attaining the ISO standards for Aviation forecasts.

Challenges Comment

The WFSD has faced a number of challenges this year, including the switching team member in acting positions of Directorship.

Staffing

The following table provides information about staffing of the Weather Forecasting and Services Division in 2014.

Staffing	Details
Numbers:	Total staff [9] – Permanent [6], Contract [3]
Performance Appraisals Conducted	All permanent staff were reviewed for 2014 to accommodate New VMGD structure. 3 Staff were promoted to new position within the structure (Fred, Allan & Tom)
Study Leave:	Jerry Timothy (contract) went to BOM (WMO fellowship)
Secondment:	Nil.
Annual Administration Leave:	Fred Jockley: 9 June -9 July Allan Rarai: 1 – 12 March, 18 August – 17 September Levu Antfala: 3 – 18 May, 1 – 5 August Moirah Yerta: Compassionate Leave; 6 – 21 August Ellen Luke: 28 August – 2 September
Other Leave/Resignation/Retirement:	Yan Nelson was on sick leave for 2 months (November/December)

3. Climate Division

Division Purpose and Key Outcomes

The Climate Division contributes to VMGD purpose by providing timely and quality climate services and products with skilled and motivated staff using modern and sound technology and techniques.

The Climate Division is a highly technical section with qualified staff relying on modern and appropriate technology for management and analysis of climate and related environmental data to monitor, predict and provide climate and other related environment information, forecasts, advisories and warnings.

The following are key outcomes identified by the Climate Division:

1. Improve management of historical rainfall, other meteorology, climatology, and hydrology and environment data.
2. Improve and sustain quality of rainfall, other climatology, hydrology and other related environmental data at VMGD HQ's server.
3. Manage operation of climate databases such as CliDE.
4. Improve development of seasonal climate information, forecasts, services and warnings.
5. Improve development of drought information, forecasts, services and warnings.
6. Develop agro-meteorology and other sector specific services.
7. Allow for access to other data.
8. Develop and carry out research and climate projects.
9. Work with regional and international institutions on climate related issues.

2014 Priority Activities and Results – Climate Division

The 2014 Annual Report provides activities the climate division implemented under the 2014 Business plan. Under this year's business plan, there were two broad areas of activities implemented; on-going activities and activities that have specific timeframes, including new initiatives. Activities in the two broad areas are grouped to five main programs of work: Data management, Vanuatu Rainfall Network (VRN), Seasonal forecasting, Agro-met, Climate requests and also training undertaken by climate officers. These programs include the activities the climate division is obliged to provide report on for 2014.

2014 Programs and Objectives required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text. **74%** of activities were achieved in 2014.

Climate Division (Business Plan)			
Programs	**Objective (Targets)**	**Result** ✓ ✗	**Result Summary**
National Climate Centre Monthly Bulletins	To produce, issue and circulate monthly bulletins to all government and relevant agencies	✓	VCU bulletins were produced and circulated
	1. Teleconference preparation	✓	12 Preparation of OCOF tables
	2. Participate in monthly teleconference	✓	Participated in 9 teleconferences
	3. Publish rainfall outlook	✓	Outlook upload on webpage
	4. Publish monthly VCU	✓	10 VCU produced
	5. Stakeholders meeting	✓	3 Stakeholder meetings
	6. Monthly briefing	✓	5 monthly briefings

	7. Update provincial boards 8. Produce agro-met bulletins	✓ ✘	Update of provincial boards No agro-met bulletin
ENSO	1. Review of ENSO Directive 2. Integrate crop threshold into SCOPIC 3. ENSO timeline and stories for Vanuatu completed 4. Run an internal ENSO training for VMGD	✓ ✘ ✓ ✘	Review of ENSO Directive Initial research by VARTC on crop modelling NOAA help to develop this during climate dialogue. No ENSO internal training
Traditional Knowledge project	1. Visit two pilot sites 2. A report on weather and climate indicators 3. Planting of climate indicator trees 4. Climate indicators booklet 5. Development if integration procedures 6. Hire officer to extract TK information from VKS archive	✓ ✓ ✓ ✓ ✓ ✓	Visit to Pentecost, Ureparapara, Malekula TK sites Reports of site visits produced Trees planted @ VMGD area Picture booklet produced Continued monitoring on TK indicators Brian Vira was hired on contract basis
Research	1. Develop a agro-met proposal	✓	A Agro-met concept developed
Agriculture and Climate Services	1. Amend MOA with agriculture 2. A Bislama agro-met DVD complete 3. 6 provincial seasonal planting calendar complete 4. Finalise the narrative and Stories of CC Impacts on the Agricultural Sector in Vanuatu 5. Produce 12 agro-met bulletins 6. Include major crop thresholds in SCOPIC 7. Manage Vanuatu rainfall and agro-met face book for dissemination of information 8. Attachment of agri-officers to climate division and vice versa 9. Conduct climate field school 10. A national ENSO timeline with narrative stories and memories	✓ ✘ ✓ ✘ ✘ ✘ ✘ ✘ ✓	MOA amended Initial video footage during agro-met summit in Tanna All six provinces have finalized calendar. BOM help to develop 2 picture calendar Agro-Met officer on study leave Due to a shortage of officers, this was not possible. No project funds. The NOAA team agreed to work on this.
Projects	1. EU-GIZ – Climate Early Warning System 2. APN – Provincial ENSO TOT workshops	✓ ✓	Concept note submitted and accepted. PDD produced Concept note develop and submitted. Accepted to stage two
Regional workshop and Training, COSPAC and PACSAP	Regional workshop and Training, COSPAC and PACSAP	✓	Workshops and training by COSPAC and PACCSAP attended by climate officers.

Workshops	1. Organise Climate/climate change symposium (WMO day) 2. TK workshop	✓ ✓	Climate division participated in WMO day A three day workshop held @VMGD
Vanuatu Rainfall Network (VRN)	1. Upgrade of 10 VRN sites to climate sites 2. Seven rainfall intensity charts for seven synoptic stations 3. Purchase 20 spare rain gauges 4. Visit Tafea rainfall sites 5. Payment for VRN 6. Collect synoptic sites meta data and new rainfall site	✘ ✘ ✘ ✘ ✓ ✓	Did not happen but will be captured under the World Bank project No expertise source to do this Quotation from Wilco required. Shortage of funds. All rainfall collectors who are eligible received payment. All sites meta data entered to CliDE
Data Digitization/Archive	1. Complete Bauerfield, Port Vila and Lamap data 2. 2 days per week per validation 3. Produce SOP of on how to access hard copy of climate data 4. Discuss with VKS to host back-up server 5. Produce a spreadsheet of monthly data in hard and soft copy 6. Repair and replace shelves for archiving 7. Store all climate data in excel in massive storage device storage	✓ ✘ ✓ ✓ ✓ ✘ ✓	All three hourly rainfall data for Port Vila and Bauerfield digitized and submitted for project Included in SOP Discussion started and agreed. NAS provided by project. Data summary Included in quarterly report. No appropriate material found in hardware Data for 2013 in massive storage while 2014 in the process
Reporting	Monitor and evaluate the overall work of the Division	✓	3 quarterly reports were submitted.3 major reports in TK, Agro-Met and VRN has been completed. Overseas reports are produced. Annual report for 2013 produced. 2014 underway
Intern/Volunteer program	Engage keen students and volunteers in Climate related activities	✓	Jacqui Watt, a Red Cross Volunteer joined the climate division on research and development. Brian Vira join TK project Daphne and Shanna help with the rainfall 3 hourly digitization
Climate early warning system (CLEWS)	1. Engage negotiation with malaria section to incorporate malaria data in SCOPIC	✓	Initial discussion has started with the Health Department. A committee has been formed
Communication	1. Develop interactive request form	✓	Interactive Form developed

	2. Analysis of in-coming climate request 3. Produce report of monthly climate data 4. Repair and replace shelve for archiving 5. Review climate SOP 6. Talkback shows 7. Include request form on intranet	✓ ✓ ✘ ✓ ✓ ✘	Requested analysis in 2014 report Data report in this report No appropriate material found in hardware SOP reviewed and finalized Participate in 3 talkback shows Awaiting new intranet design
Training	a. Participate in COSPPac and PACCSAP trainings b. Short term attachment with NIWA and BOM c. Run a pre-WMO class 4 for rainfall collectors d. Attend climate observers training in Fiji e. Run and internal ENSO training for VMGD f. Conduct ENSO workshop g. Attend studies at USP, Suva h. Attend sea –level training in Australia	✓ ✓ ✘ ✓ ✓ ✓ ✘	Participate in all invited COSPPac and PACCSAP training Mike with BOM and Philip with NIWA No funds for training (84 rainfall volunteers) Joe Mala attend in Fiji Integrated as part of provincial workshops to develop VMGD provincial officers. Malampa workshop. Mike attended Management course at USP Not attended
Policy	1. Negotiate for a Red Cross Volunteer 2. Develop a agro-met proposal 3. Summarize quarterly and annual report 4. Review climate SOP	✓ ✓ ✓ ✓	An overall VMGD meeting with Kylie for a strategy. A concept note was prepared and discuss. A policy paper on meteorology and climatology is submitted Three reports were submitted SOP reviewed and submitted

I- Data Management

I-1-Data Software

The climate division is operating two Databases namely CliDE 3 and Excel Spread Sheet. CliDE is a software developed by PSSCP project in association with PACCSAP in 2014. This database is currently used by most 14 NMS in the Pacific Islands including Vanuatu. As well as CliDE, the Division still uses the excel database for several reasons:

1. The most important reason is that CliDE is a new database and it is important to employ a strategy where there is a back-up database if CliDE does not secure any further funding in the future.

2. Currently, CliDE does not have all of the necessary products requested by clients so providing data in excel format will be an advantage for users.

I-2-Data Collection

In 2014, the Climate Division continued managing the 88 rainfall sites initiated by the Division a few years ago. All rainfall data from VRN is registered into the CliDE database. Other climate data is collected by weather observers from the seven synoptic stations, namely: Sola, Pekoa, Lamap, Saratamata, Bauerfield, White Grass and Analgohaut. The weather observers manually observe, record and transmit relevant information every 3 hours. VMGD does not have any Automated Weather Station (AWS) in its observation network but progress has been made to include 2 AWS under the JICA project and 5 more under the V-CAP project.

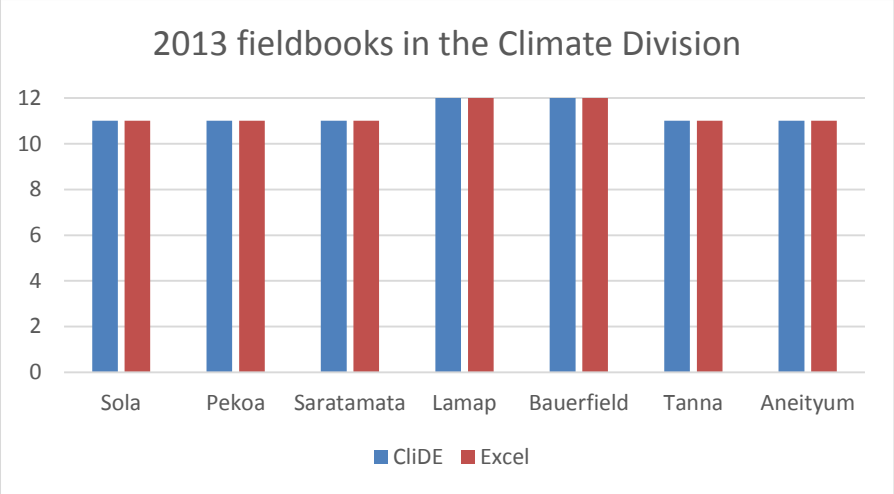
The rainfall network is managed by the rainfall volunteers throughout the islands. Rainfall data is also collected daily by rainfall managers throughout the country and then mailed to the division on a monthly basis. There is also a provision of using mobile phone services to collect daily rainfall data should this be required.

I-3-Data Recording

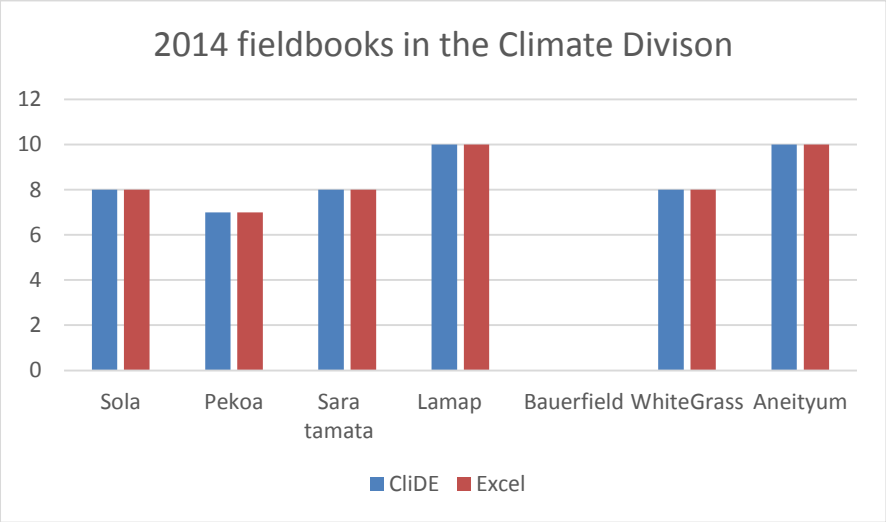
All observed data is recorded on monthly field books and a monthly register for digitizing and further analysis in the climate division. In 2014, there was inconsistency in monthly register recording, particularly for the stations at Lamap and Sola. The purpose of the monthly register is to aid the Climate Division in improving data entry, and to avoid data entry error. Therefore is important that each synoptic site continues to accurately fill-in the monthly register.

I-4-Data Quality

Most of the data that sits in either the CliDE or excel database has some inconsistencies. This is a result of the methods by which data is collected, stored and managed as well as the environment in which each site is located. Maintaining data quality requires going through the climate data periodically, applying data quality assurance rules, validating and estimating values of missing data and setting new limits. This has to run in parallel with the continuous calibration of instruments and the updating of metadata from instruments and sites from the Engineering and Observation Divisions. This is collaborative work and includes use of the new instrument database developed in 2014 by Thant (Red Cross Volunteer). With good use, these processes will help better manage issues of instruments and metadata.



Climate Division 2013 and 2014 Data Entry into Excel & CliDE Database



I-5-Digitization of Sub-daily Rainfall Data into CliDE

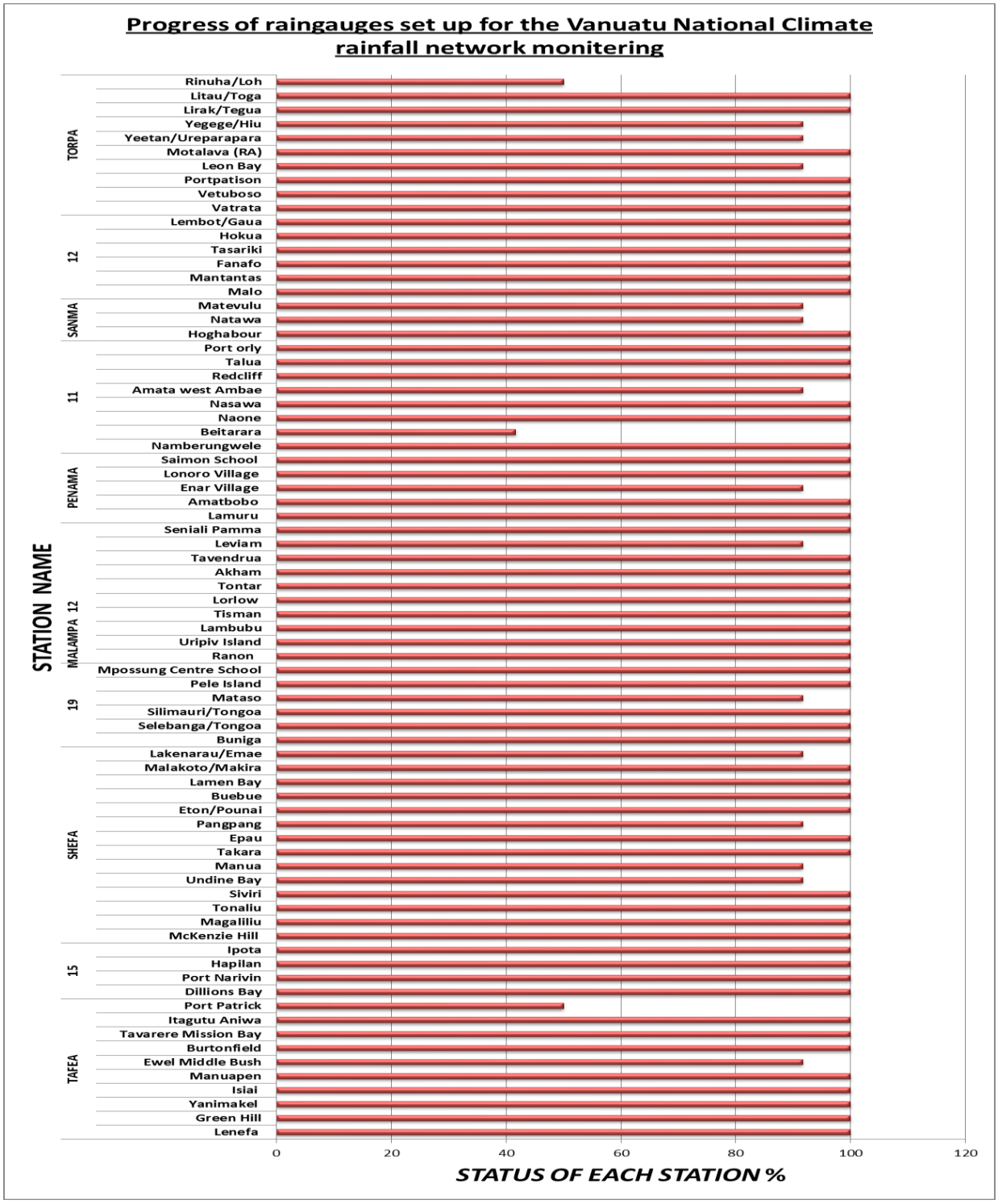
In August 2014, the Climate Division managed to negotiate for some funding from the PACCSAP project to help digitize the Bauerfield and Port Vila sub-daily rainfall data to help with designing of the Port Vila urban infrastructure project. On September 13th 2014, a total of 432,800vt (AUD $5000) was distributed to the Vanuatu Development account.

With the funds, two students were hired on contract to help with the digitization of the sub-daily rainfall data of those two stations. As a result, Bauerfield station has its sub-daily rainfall data digitized from 1985 to 2013 and Port Vila station from 1970 to 2013. All the data has also been validated. The project team in Melbourne, Australia have access to both the Port Vila and Bauerfield sub-daily rainfall data. With the availability of more time, the two students did extra work to digitize the Pekoa sub-daily rainfall between 1970 and 2013. That data now sits in the CliDE database. With this work, the Division is hoping to get other stations not only sub-daily rainfall but all other sub-daily variables into CliDE database.

II- Vanuatu Rainfall Network (VRN)

The Vanuatu Rainfall Network was established primarily to expand the rainfall network in order to help with development in other islands of Vanuatu. Since 2010, after a slow start, there have been

eighty eight (88) rainfall stations installed around the country. Twenty one (21) gauges were installed in Shefa province, twelve (12) in Malampa province, twelve (12) in Penama province, fourteen (14) in Sanma Province, twelve (12) in Torba province, and fifteen (15) in Tafea province. Some of these stations are located in government areas with VMGD continuing to maintain and monitor.



Status of VRN Performance

Payment was made according to performance from each site. Collectors are entitled to 100vt per day with no payment if rainfall data is not collected and reported back. Once all data is collected and

checked, a list of rainfall collectors and the amount owing was released to finance officer for processing. As per the performance graph, all stations are performing above 90%, except for two which had telecommunications issues.

II-1-Payment of Vanuatu Rainfall Collectors

Submission of names and payment details for first and second quarter of 2014 was on time, but payment was late for those banking with NBV. The total cost of paying rainfall collectors for the first half of 2014 was 1,387,800vt which accounted for 79 rainfall collectors. The final payment for third and final quarter was completed in December with a total of 1,368,000vt, accounting for 76 rainfall collectors. The year's total was 2,755,800vt paid to the rainfall collectors in 2014.

One key recommendation designed to improve the payment process is that the Administration Division budgets for these payments so that payment can be made on time. This means that during warrant release, there must be allocation made to this payment activity every month to avoid late payments.

II-2-Installation of automatic rain gauges and fencing

The National Agriculture Research Institute (NARI) in Papua New Guinea with funds from European Union also contributed in setting up rain gauges for the Vanuatu Rainfall Network. This contribution was made possible by the signed MOU between VMGD and DARD on how the two departments can work together on the issues of climate and agriculture.

NARI PROJECT FOR MALAFAU & SIVIRI

From September 9th to 13th 2014, technicians from VMGD installed two automatic rain gauges funded by NARI on Malafau and Siviri Stations on Efate. The installation also involved erecting fences around these gauges. In Siviri, there is now a manual and automated gauge to help with data collection from this research site. VMGD is responsible for maintaining the gauges.

Malafau

Siviri

MIDDLE BUSH TANNA

NARI project also funded the erection of a fence around the automatic rain gauge in Middle Bush, Tanna. The automatic gauge was installed few years ago to cater for the flooding which frequently occurs during La Nina events in this area. The fencing was built by Jeremy and Loic on September 24th and 25th 2014. Data for 2013 to 2014 was retrieved and saved onto a laptop. The data was then archived at VMGD.

NAMBATU PORT VILA and TONGARIKI

During an on-going regular check, the automatic gauge in the Nambatu area in Port Vila was diagnosed to have low battery and capacitor issues so these two parts were changed on the 30th October 2014 by Chris (Red Cross Volunteer with ICT Division).

The Climate Division was able to retrieve data for 2014 and archived it in the rainfall data bank.

II-3-Installation of Manual Rain Gauge

Vanuatu Red Cross installed one rain gauge on Lelepa Island on the 23rd April, 2014. The Climate Division also installed a new rain gauge on 1st of November 2014.

II-4-Purchase of 10 batteries and capacitors

The ML1-420/FL data loggers and 10 quantity batteries SC071-20 AA Lithium S 14500 3.6 VLS were ordered. This order was placed by Chris and those items are available in stock to cater for other battery and capacitor failures at other sites.

III- Workshops

III-1-Traditional Knowledge

In April, the Climate Division organized a three-day training session on Traditional Knowledge. The training was facilitated by Mike Waiwai, Roan Plotz and Lynda Chambers. The training involved representatives from the different Divisions within VMGD as well as partners and stakeholders from Vanuatu Kaljoral Senter and Vanuatu Red Cross Society. A representative from Samoan Met services joined the training to observe the Vanuatu pilot of a TK project as Samoa is interested in implementing a similar project. The training covered: TK database, TK monitoring form and TK Picture booklet.

Traditional Knowledge

One of the greatest achievements for the VMGD and its partners, the Vanuatu Red Cross Society and Vanuatu Cultural Senta (VKS) this quarter was the signing of an MOU. The MOU facilitates the implementation of a 3 year Traditional Knowledge focused project funded by the Australian Government through the COSPPac. The project will focus on four main islands; Tanna, Malekula, Pentecost and Ureparapara. The collection of information will be based mainly on local weather and climate indicators from these four sites and a database will be created to host the collected data.

(Photo: Brian Kiluki)

A team made up of VKS, VMGD and Vanuatu Red Cross staff was set up to revise the TK data collection. The team was also able to listen to some of the stories from other project sites such as Ureparapara, Pentecost, Malekula and Tanna.



(Photo: Mike Waiwai)

PENTECOST

The Traditional Knowledge Weather and Climate team also visited the Penama Province in May 2014. They visited the Lumuru Village in the northern part of Pentecost between the 14th and the 21st of May. The team had the chance to visit the Vanuatu Kastom University which is set up to promote and observe the traditional resources of Vanuatu. The team also visited 6 other villages in Pentecost to collect Traditional Knowledge Information and collected a number of new indicators from the islands.

Mike and High Chiefs at Kastom University

Wild Cane (Ariu) – Common Indicator for hot/dry seasons

UREPARAPARA

The TK team organized another site visit to the island of Ureparapara from the 3rd to 8th October 2014.The objective of this visit was:

- To collect all Traditional Knowledge Information in the two main villages on the Northern part of Ureparapara island.
- To create a relationship with local people to facilitate working together to collect as much TK information as possible.
- To carry out awareness activities on climate change related issues.
- To train rainfall collectors on how to use the traditional knowledge monitoring forms.

Over the course of the trip the team worked with communities in Lehali, a village on the western part of the island and Leserepla located in Diverse bay. The Lehali community is situated on the eastern side of the island. During the first 3 days the team were in the western part of Lehali village to interview the men, women, chiefs and elderly people. During the final two days, the team traveled across to Diverse Bay to work with the Leserepla village and interviewed a range of people including elderly people in the community.

During the trip the team also instructed trained rainfall collectors on how to use the TK monitoring form.

III-2-Malampa Climate Workshop

Between the 30th of June and the 3rd of July 2014, the Climate Division conducted a workshop in Lakatoro for the Malampa Province area secretaries and rainfall collectors. The focus of the workshop was increasing access to, and understanding of weather and climate Information.

IV- Seasonal Forecasting and Forums

IV-1-Pacific Islands – Online Climate Outlook Forum

One of the ongoing activities carried out by the climate division is monthly seasonal forecasting. This requires the climate division to produce a rainfall outlook table using SCOPIC, send it to Australian Bureau of Meteorology for feedback and then participate in a regional teleconference. Once finalized, a briefing is organized to update the officers of VMGD on the ENSO status and situation, that briefing includes the stakeholders for each year. This year the climate team participated in a total of 9 teleconferences. We were unable to participate in 2 teleconferences because the phone was not available.

The Department's partnership with the Bureau of Meteorology Australia as part of the Climate and Oceans Monitoring and Predication (COMP) Project has helped strengthen and facilitate the production of information that the climate division provides to its stakeholders.

From the BOM webpage as well as NIWA, their climate division is able to synthesis available current climate information to aid with the development of the Vanuatu Climate Update on a monthly basis. This product, that is made up of climate conditions in the Pacific as well as ENSO outlook information, is then widely circulated to stakeholders by Government owned email systems and uploaded onto the webpage. There is also monthly VMGD briefing to help officers understand the current climate status. Stakeholder briefings are held on a quarterly basis.

Below is a breakdown of the teleconferences that Climate Division participated in in 2014.

Date	Time	Teleconference Summary
23rd Jan 2014	12-1pm	**ENSO summary:** The El Niño–Southern Oscillation (ENSO) remains in a neutral state, with all indicators well within neutral bounds. International climate models surveyed indicate this neutral ENSO state is likely to persist into the austral autumn. Some models suggest the central Pacific Ocean may warm during autumn and winter, while others remain near average.
20th Feb 2014	12-1pm	**ENSO summary:** The El Niño–Southern Oscillation (ENSO) state is neutral, with climate models suggesting neutral conditions will persist at least until the end of the austral autumn. However, some warming of the Pacific is likely in the coming months. Most international climate models surveyed suggest the

		tropical Pacific Ocean will warm through the austral autumn and winter. Some, but not all, models indicate central Pacific Ocean temperatures may approach El Niño levels by early winter.
20th March 2014	12-1pm	**ENSO summary:** Not able to participate in the teleconference because a VMGD staff was using the phone and we could not receive incoming calls.
16TH April 2014	12-1pm	**ENSO summary:** Not able to participate in the teleconference because a VMGD staff was using the phone and we could not receive incoming calls.
15th May 2014	12-1pm	Direct line (23866) was installed so we were able to participate in the teleconference for the month. **ENSO summary:** The tropical Pacific Ocean has warmed steadily in recent months, with large warm anomalies in the ocean sub-surface (5-day values up to +6 °C) and increasingly warm sea surface temperatures. Climate models surveyed suggest El Niño development is possible as early as July. These factors indicate that while El Niño in 2014 cannot be guaranteed, the likelihood of an event developing remains at least 70% and we are at El Niño ALERT level. For El Niño to be established and maintained, coupling needs to occur between the tropical Pacific atmosphere and ocean, evident by further and persistent weakening of the trade winds and a consistent increase in cloudiness near the Date Line. These atmospheric characteristics of El Niño are forecast to become evident over the coming months.
12th June 2014	12-1pm	**ENSO summary:** The tropical Pacific Ocean remains on track for El Niño in 2014, with just over half of the climate models surveyed suggesting El Niño will become established by August. An El Niño ALERT remains in place, indicating at least a 70% chance of an El Niño developing in 2014. Sea surface temperature (SST) anomalies in the tropical Pacific Ocean have increased steadily since February, and are now greater than +0.5 °C in the key NINO regions. However, above-average SSTs also extend into the western tropical Pacific, meaning strong west to east gradients in tropical Pacific SST anomalies are yet to become established. As a result, atmospheric indicators—such as the Southern Oscillation Index and trade winds—have only shown a weak response.
17th July 2014	12-1pm	**ENSO summary:** Warming of the tropical Pacific Ocean over the past several months primed the climate system for an El Niño in 2014. However, a general lack of atmospheric response over the last month has resulted in some cooling of the tropical Pacific Ocean. While the majority of climate models suggest El Niño remains likely for the spring of 2014, most have eased their predicted strength. If an El Niño were to occur, it is increasingly unlikely to be a strong event.
21st August 2014	12-1pm	**ENSO summary:** The Pacific Ocean has shown some renewed signs of El Niño development. Some warming has occurred in the central and eastern equatorial Pacific Ocean in the recent fortnight, due to a weakening of the trade winds. If the trade winds remain weak, more warming towards El Niño thresholds is possible. The ENSO Tracker remains at WATCH status. This means the chance of an El Niño developing in 2014 is at least 50%, which is double the normal likelihood of an event. Five of the eight climate models surveyed suggest El Niño is likely for spring. However, if El Niño were to occur, it is unlikely to be a strong event.

18th September 2014	12-1pm	**ENSO summary:** Despite some warming of the tropical Pacific Ocean over the past month, ENSO remains neutral. However, models continue to suggest an El Niño remains possible in 2014, and hence the ENSO Tracker remains at WATCH status, indicating at least double the normal risk of an El Niño developing by the end of the year. Although tropical Pacific Ocean surface temperatures are within neutral range, an area of the sub-surface is warmer than average. A late season El Niño remains possible if these warmer waters rise to the surface and then affect atmospheric circulation, or if another sustained westerly wind burst develops in the western Pacific. The majority of international climate models surveyed indicate central tropical Pacific surface temperatures will remain warmer than average, and may exceed El Niño thresholds by the end of the year.
16th October 2014	12-1pm	**ENSO summary:** Tropical Pacific Ocean ENSO indicators remain within the neutral range, having failed to maintain sustained values typical of El Niño. However, given the persistent warmth in the tropical Pacific Ocean, models continue to suggest an El Niño remains possible during the last year of 2014. Atmospheric indicators of El Niño have remained neutral over recent months. Tropical cloud patterns and trade winds have only had brief periods with El Niño-like values since May. Despite a recent drop into El Niño territory, the Southern Oscillation Index (SOI) has returned to neutral values over the past fortnight.
13th November 2014	12-1pm	**ENSO summary:** Tropical Pacific Ocean ENSO indicators remain within the neutral range, having failed to maintain sustained values typical of El Niño. However, given the persistent warmth in the tropical Pacific Ocean, some models continue to suggest an El Niño remains possible later this year. Some atmospheric indicators have met El Niño thresholds. The trade winds and the Southern Oscillation Index (SOI) have had El Niño-like values for the last three months. Rainfall/convection patterns near the Date Line have been slightly below average over the past two weeks. Positive SST anomalies cover most of the equatorial Pacific in October. October SST anomaly values for NINO3 were +0.7°C (up 0.2°C), NINO3.4 +0.6°C (up 0.2°C) and NINO4 +0.8°C (up 0.1°C). The latest weekly values to 9 November are NINO3 +0.9°C, NINO3.4 +0.7°C, NINO4 +0.9°C.
16th December 2014	12-1pm	**ENSO summary:** The equatorial Pacific Ocean remains warm, with surface temperatures exceeding El Niño thresholds for several weeks. Typically, after the ocean has exceeded thresholds for an extended period, an El Niño is considered to be underway. However some atmospheric indicators, such as the trade winds, cloudiness and tropical rainfall, have not shown sustained and widespread patterns consistent with El Niño. The Southern Oscillation Index, which has remained negative for several months, has recently eased back from El Niño thresholds; this is likely to be a weather related short-term fluctuation in the index.

IV-2-NIWA Teleconference

Another partnership that helps facilitate our services is with the National Institute of Water and Atmospheric Research (NIWA) based in New Zealand. NIWA also holds monthly teleconferences that the Department participates in through the Climate Division. This year the Climate Division participated in 8 teleconferences.

Date	Time	Teleconference Summary
8th Jan 2014	10:30-11:30am	The equatorial Pacific remains in a neutral ENSO state. • Sea surface temperatures (SSTs) continue to be higher than normal in the central south Pacific. • International guidance indicates that neutral ENSO conditions are extremely likely (96 % chance) to persist for the coming three months (January to March 2014).
4th Feb 2014	10:30-11:30am	The equatorial Pacific remains in a neutral ENSO state. • Sea surface temperatures (SSTs) remain higher than normal in the central south Pacific. • International guidance indicates that neutral ENSO conditions are very likely (88 % chance) to persist for the coming three months.
4th Mar 2014	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was positioned close to normal for the time of year, with intense convection near the Gulf of Carpentaria. • Tropical Pacific oceanic and atmospheric conditions are ENSO neutral, although the regional SST pattern is reminiscent of La Nina. **Circulation patterns** • Strong 'lows' predominated the regional circulation last month. More frequent northerly flow across many islands east of the Dateline, with southerly and westerly flow west of the Dateline. **Sea surface temperatures** • Well above normal SST anomalies continued from previous months around Fiji, Tonga, Niue but weakened in the Tasman Sea. Cool SSTs intensified along the Equator. **Outgoing Longwave Radiation (OLR) and rainfall** • Less cloud cover than normal along the Equator over Eastern Kiribati, but very cloudy over northern Australia and the Solomon Islands. • Continuation of below normal rainfall for New Zealand, and well above normal rainfall in Tahiti.
3rd Apr	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was positioned north normal for the time of year, and much more intense than normal. • Tropical Pacific oceanic and atmospheric conditions are ENSO neutral, and anomalous patterns have weakened from previous months. **Circulation patterns** • Strong 'lows' predominated the regional circulation last month near the International Dateline close to Fiji, Niue and Tonga while 'highs' were more frequent over New Zealand and the Tasman Sea. **Sea surface temperatures** • Well above normal SST anomalies that existed in previous months around Fiji, Tonga, Niue weakened significantly. Cool SSTs that existed along the Equator also weakened. **Outgoing Longwave Radiation (OLR) and rainfall** • More cloud cover than normal north of the Equator over Kiribati and over Vanuatu. • Continuation of below normal rainfall for New Zealand, but well above normal rainfall for Niue and Tonga. Onset of above normal rainfall for some countries east of the Dateline.
2nd May	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was positioned near normal for the time of year, and subtly defined to the east of the Dateline. • Tropical Pacific oceanic and atmospheric conditions are pointing to the development of El Nino in coming months. **Atmospheric circulation patterns**

		• Strong 'lows' predominated the regional circulation last month near New Zealand and the central Tasman Sea, with very strong 'highs' east and south of New Zealand. **Sea surface temperatures** • Above normal SST anomalies that existed in previous months along the Equator continued to build. Cool SSTs have appeared south and east of the Austral Islands. **Outgoing Longwave Radiation (OLR) and rainfall** • More cloud cover than normal north of the Equator over Kiribati and near the Solomon Islands. • Well above normal rainfall for the Solomon Island and northern Queensland. Below normal rainfall for many countries south of 15°S.
4th Jun	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was subtly defined to the west of the Dateline to the north of the Solomon Islands and Fiji. • Tropical Pacific oceanic and atmospheric conditions are indicating the development of El Niño. **Atmospheric circulation patterns** • Strong 'highs' predominated the regional circulation last month near northern New Zealand and the central Tasman Sea, with 'lows' to the southeast of the Austral Islands. Westerly wind anomalies east of the Dateline along the Equator. **Sea surface temperatures** • Above normal sea surface temperature (SST) anomalies that existed in previous months along the Equator continued to build. Cool SSTs persisted to the south and east of the Austral Islands and near the Marquesas. **Outgoing Longwave Radiation (OLR) and rainfall** • More cloud cover than normal just north of the Equator and over central and southeast Australia. • Well above normal rainfall for stations reporting from Tonga, Niue, Samoa and Fiji. Below normal rainfall for Queensland, New Caledonia and French Polynesia.
1st Jul	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was poorly defined which is typical this time of year. • Tropical Pacific oceanic conditions near the Equator are indicating the onset of El Niño, but the regional atmospheric conditions for this type of event have yet to develop. **Atmospheric circulation patterns** • Strong 'highs' predominated the regional circulation last month east of the Chatham Islands, with 'lows' over Tasmania, Papua New Guinea and the Austral Islands. Easterly wind anomalies prevailed in the extra tropical transition zone. **Sea surface temperatures** • Above normal sea surface temperature (SST) anomalies that existed in previous months east of Kiribati continued to build. Cool SSTs persisted and strengthened slightly to the south and east of the Austral Islands and near the Marquesas. **Outgoing Longwave Radiation (OLR) and rainfall** • More cloud cover than normal just north of the Equator, with reduced cloud over northern Vanuatu and Samoa. • Well below normal rainfall for many stations reporting from Tonga, Samoa, Fiji and New Caledonia.
1st Aug	10:30-11:30am	**Southwest Pacific regional climate last month**

		• South Pacific Convergence Zone (SPCZ) defined in TRMM rainfall as situated north of the Solomon Islands and the northern edge of Samoa. • Tropical Pacific oceanic conditions near the Equator are indicating the onset of El Niño. Regional atmospheric conditions for this type of event have yet to fully develop. **Atmospheric circulation patterns** • Strong 'lows' predominated the regional circulation last month well east of the Chatham Islands, with high pressure anomalies over the Coral Sea and French Polynesia. Westerly wind anomalies prevailed in the subtropics. **Sea surface temperatures** • Above normal sea surface temperature (SST) anomalies that existed in previous months north of the Equator east of Kiribati persisted. Cool SSTs still exist near the Marquesas. **Outgoing Longwave Radiation (OLR) and rainfall** • More cloud cover than normal north of the Equator, with reduced cloud over Vanuatu, Fiji and French Polynesia. • Well below normal rainfall for many stations reporting across the region.
3rd Sep	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was well defined and extended further east than normal. • The equatorial Pacific Ocean remains ENSO-neutral in August 2014. **Atmospheric circulation patterns** • Strong 'highs' predominated west of New Zealand and south of Australia. Westerly wind anomalies were present in the eastern Equatorial Pacific. **Sea surface temperatures** • Above normal sea-surface-temperatures (SSTs) persisted in the western Pacific and eased off in the central Pacific. **Outgoing Longwave Radiation (OLR) and rainfall** • Less cloud cover than normal for a large part of the southwest Pacific south of the Equator. • Well below normal rainfall for many stations reporting across the region.
2nd Oct	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) defined in TRMM rainfall as situated southwest of normal. • Tropical Pacific oceanic conditions near the Equator are close to El Niño thresholds. Regional atmospheric conditions for this type of event have yet to fully develop. **Atmospheric circulation patterns** • Near normal regional circulation last month for most of the southwest Pacific, with lows over northern New Zealand and highs near Tasmania. Weak westerly year winds in the subtropics near the International Dateline. **Sea surface temperatures** • Above normal sea surface temperature (SST) anomalies that existed in previous months along the Equator persisted. Cool SSTs still exist near the Marquesas. **Outgoing Longwave Radiation (OLR) and rainfall** • More cloud cover than normal over parts of Papua New Guinea, the Solomon Islands and portions of Vanuatu. • Well below normal rainfall for many stations reporting across the region, and an increase in drought risk for many small island nations.
4th Nov	10:30-11:30am	**Southwest Pacific regional climate last month** • South Pacific Convergence Zone (SPCZ) was more intense than normal in the western Pacific. • The equatorial Pacific Ocean remains ENSO-neutral in October 2014.

		Atmospheric circulation patterns • Lower pressure than normal were present east of New Zealand, and higher pressure than normal were recorded in the eastern Pacific. **Sea surface temperatures** • Above normal sea-surface-temperatures (SSTs) persist in the Pacific along the Equator. **Outgoing Longwave Radiation (OLR) and rainfall** • Decreased convection affected the Maritime Continent. • Drier conditions that affected many Island groups in the South Pacific over the past months have eased off in October 2014.

IV-3-Monthly Briefings

This year the Climate Division organized a total of 5 Climate Updates for VMGD staff. The turnout at the briefing showed great improvement from previous briefings and the feedback and comments from the officers reflected a greater level of understanding of what was presented.

VMGD Briefing

Date	Internal/External
18th Feb , 9-10am	Internal
14th April, 9-10 am	Internal
8th May, 9-10am	Internal and External
22nd July , 2pm	Internal and External
17th October, 1:30-2:30pm	Internal and External

Rainfall performance for: January – October 2014

Region	Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Northern	Sola	475.8	296.0	446.5	419.8	168.0	220.1	263.8	35.5	216.2	536.2	455.1	155.0
	Pekoa	494.0	430.5	492.3	148.7	50.9	110.2	63.8	37.6	191.6	273.6	99.3	162.4
	Lamap	409.4	69.8	406.6	149.3	177.7	53.9	151.3	25.0	168.0	191.3	93.3	130.7
Southern	Bauerfield	560.0	125.8	473.9	164.2	129.5	51.4	125.4	41.2	71.9	379.5	107.7	264.5
	Port Vila	394.1	102.7	339.0	105.5	197.6	54.4	135.5	33.7	142.4	250.5	122.8	190.2
	Whitegrass	460.6	18.8	250.2	22.9	44.3	19.3	40.2	6.0	135.2	39.4	109.2	92.9
	Aneityum	575.5	57.6	230.2	73.8	165.5	96.3	73.8	74.6	184.4	149.7	196.9	271.9

* Normal, Above Normal, Below Normal.

IV-4-Rainfall Forecast

Outlooks for February to April 2015

1. SCOPIC

Using Nino 3.4 SST Anomalies;

- The most likely outcome at Sola, Bauerfield and Port Vila is below normal rainfall with normal rainfall the second most likely.
- The most likely outcome at Whitegrass is normal rainfall with below normal rainfall the second most likely.
- The outlook offers little guidance for Lamap, Aneityum and Pekoa for the coming season as the chances of above-normal, normal and below-normal rainfall are similar.
- Overall; normal rainfall is favored for the coming three months.

2. POAMA

- The most likely outcome at Pekoa and Lamap is normal rainfall with above normal rainfall the next most likely.
- The most likely outcome at Bauerfield and Port Vila is normal rainfall with below normal the next most likely.
- The most likely outcome at Aneityum is below normal rainfall with normal the next most likely.
- The outlook offers little guidance as there is equal likelihood of normal and above normal rainfall for Sola station for the coming months.

IV-5-Climatological Data Request

Requests

Month	Name of Client/ Organisation	Types of Elements Requested	Officer
February	Allan Faerua/ Engineer (constructional purposes	- Daily rainfall for Port Vila – 2013-14	Mike
April	Betty –student (Research) Smith- Project Consultant David G- Forecast (analyst)	- Daily rainfall - Daily Rainfall - Wind (TC Luci) - Daily rainfall, pressure,	Mercy Mercy Mike & Mercy
May	J.Shing- Private Consultant William- Takara Project C.Pierce- Consultant Yvettee- Researcher	- wind speed/direction - Daily Rainfall - Daily Rainfall, Temperature - Meteo variables(all elements)	Mike Mercy Mike Mike
June	11 Researchers Joseph Temakon Mael- researcher Leo- student usp	- Daily rainfall - Temperature, wind, sunshine - Rainfall - Rainfall, temperature, sunshine, Pressure, RH	Mercy Melinda Peter Mike
July	Gloria & Ezra (students) Peter I (Agriculture) Mr. Matariki	- Daily Rainfall - - Rainfall , Temperature , Humidity, sunshine -	Mercy Mercy Melinda

	Raysen (Unitech stud ent)	- Daily rainfall (project) - - Temperature &Rainfall	Mike
September	Roger & Tary (research) Espie Pastor - Green Power (insolation) Fletcher Construction Steve Building Construction Police – Investigation	- Rainfall & Temperature - - Rainfall, Temperature, wind speed/ direction - Sunshine - Rainfall ,Temperature - Rainfall - Temperature, wind speed/ direction , cloud cover, thunderstorm	Mike Mike Mike Melinda Melin*d*a Mercy
Nov	Peter Murr – Designer	- Wind speed / direction	Mike
Jan- Dec	(climate outlook analyst)	- Monthly rainfall	Melinda
Jan - Dec	Island Climate Update NIWA-	- Monthly rainfall & temperature	Mercy

V- Communications and Outreach

V-1-WMO Day

Climate Division officers assisted and participated in organizing the World Meteorological Day events at the VMGD. After the launching of the Communications and Partnership Strategy, a working group was formed that consisted of representatives from each Division as chosen by their Manager. One responsibility of the working group was to organize World Meteorological Day.

For this year's WMO Day celebration, the working group organized two school visits on the 24th March 2014. The two schools visited were Ulei Secondary School and Montmartre. On the 25th there was an Open Day at the VMGD car park. Booths were set up for each division for students to visit and a careers talk was organized in the conference room. Members of the Climate Division participated in all activities as shown in the pictures below.

The feedback received from the school visits reflected great interest and appreciation from the teachers and principals of the schools who were delighted by the Department's initiative and effort in delivering career presentations and visits.

The theme for the WMO day this year was "Weather and Climate – Engaging Youths".
During the school visits to Ulei and Montmartre, the Climate Division presented the schools with a copy of the Pacific Climate Change Science Program Volume 1 & 2, as well as 10 sets of the El Nino and Climate Science brochures.




V-2-Training and Workshops Attended

1. Statistics Workshop

From the 27th to 31st January 2014 the Vanuatu National Statistics Office, in cooperation with Paris21 and the Secretariat of the Pacific Community, organized a workshop bringing together stakeholders, including the Climate Division, to validate the outputs of sector reviews conducted by national consultants. The sector reviews identified strengths, weaknesses, gaps and opportunities in the national statistical system. The outcome of the workshop was to begin the drafting of the vision, mission, objectives and strategies in each thematic area.

2. Melbourne training

From 16th -27th June the Climate and Oceans Support Program in the Pacific (COSPPac) organized a regional workshop which was held in Melbourne. The workshop was on common training priorities identified through capacity mapping with the National Meteorological Services, including:

- Communication strategy
- SCOPIC training (refresher or advanced, dependent on the participant)
- Extracting and analyzing climate date (using Excel, SCOPIC, CliDE)
- Presenting climate data & climate science

The workshop also presented an opportunity for participants to get information about COSPPac work including the Traditional Knowledge project, functionality and uses of the Ocean Portal and the tide gauge real time data display.

Climate Division benefited from the opportunity by being able to draft a communications strategy for the division that would feed into VMGD's communications strategy.

3. Jakarta Meeting

The sixth Regional Conference on Management of National Meteorological and Hydrological Services (NMHSs) in Regional Association V (South-West Pacific) was held in Jakarta from 30th April to 1 May. The purpose of the conference was to provide a forum for NMHSs Directors and senior officials to exchange views on challenges and emerging issues that members are facing, and identify future regional priorities to improve weather, climate and water services for sustainable development.

As a result of the workshop, Vanuatu was able to input activities to the RA V implementation plan of the WMO that can be implemented to address the VMGD strategy plan within the Observation Network, Global Framework for Climate Services (GFCS) and Forecasting Division.

4. COSPPac annual and steering committee meeting, Nadi Fiji

The Bureau of Meteorology's Climate and Oceans Support Program in the Pacific (COSPPac), funded by the Australian Government, held its Annual Planning meeting and the Fourth Steering Committee meeting at Tanoa International Hotel in Nadi, Fiji, from 19 - 21 May 2014.

COSPPac is a major component of the Australian Government's assistance to Pacific Island countries in adapting to and mitigating the impacts of climate variability and change. It is a four-year program which began in July 2012 with total funding of $A31.5M. COSPPac has four key areas of work: Climate and Oceans Monitoring and Prediction (COMP); Pacific Sea Level Monitoring (PSLM); Capacity Development and Communication (CD&C); and an IT Support Unit which will be responsible for the development of robust IT tools and products and for transition to Pacific partners.

COSPPac is implemented in partnership with the Pacific Island National Meteorological Services (NMSs) and Lands & Survey Departments (LSDs), Geoscience Australia (GA), and the Applied Geoscience and Technology Division (SOPAC) of the Secretariat for the Pacific Community (SPC). The Program also coordinates its work with Secretariat of the Pacific Regional Environment Programme (SPREP), World Meteorological Organization (WMO) and other national and regional partners and donors.

The COSPPac planning meeting was held over two days, Monday 19th and Tuesday 20th May 2014, and representatives from all the aforementioned organizations participated.

The purpose of the planning meeting was to:

• Present a progress report and demonstrate key tools and products developed by the program in 2013-14;

• Discuss the proposed work plan for the 2014-15 year;

• Ensure that the work plan covers relevant areas of work and is aligned with the national priorities of partner countries;

• Collaboratively plan COSPPac in-country activities; and

• Finalise the Terms of Reference for the mid-term independent progress review.

Following the planning meeting, the COSPPac Steering Committee met on Wednesday 21 May 2014, with attendance limited to Steering Committee members. The Committee is responsible for the overall governance of the Program and its primary role is to provide strategic oversight and direction for COSPPac. It is essential to the success of COSPPac that the annual work plan addresses the priorities of its partners and that it complements related regional and national activities.

5. Climate dialogue

From 9th to 13th June 2014, the Government of Vanuatu took great strides to provide climate services

to the 'last mile' by hosting the country's first Climate Services Dialogue. The unique dialogue approach, which is based on building local climate stories with real experiences, led to the co-development and delivery of new products that focus on climate issues critical to Vanuatu while combining traditional and scientific knowledge.

Hosted by Vanuatu's Meteorological and Geo-Hazards Department (VMGD) in partnership with the U.S. National Oceanic and Atmospheric Administration (NOAA) through USAID, South Pacific Regional Environment Programme (SPREP), Micronesian Sea Grant, the Australian Bureau of Meteorology and the SPC-GIZ Climate Change Program, the dialogue brought together a set of stakeholders not typically involved in climate services who were engaged in a process of dialogue and discussion.

Participants during the 4 days climate dialogue

Managing coral reefs and fisheries in a changing climate, and coastal erosion and sea level rise were identified as key issues of concern in Vanuatu, and areas where new climate services and products could be developed were discussed. At the dialogue, climate service users from fisheries, tourism, non-government organizations, forestry and communities exchanged information about the state of knowledge of climate science, impacts, and adaptation and available climate and weather service products. The also learned about best practices to reduce the impacts of coastal erosion and manage coral reef and fisheries, and explored and learned about seasonal climate-related science and information.

Stakeholders from the marine sector identified the issue of the coral eating starfish Crown of Thorns as a key climate service focus, specifically in the development of early warning systems that link outbreaks and spawning observations with climate variables. Progress was made in pulling together those variables already available that could immediately be used to aid in starfish cleanups. A high-level taskforce on Crown of Thorns starfish was established jointly by the Directors of the Departments of Tourism, Fisheries and Meteorology and including the private sector dive and tourism operators. A marine climate dashboard was also launched which consolidates relevant climate variables and projections in a single convenient online location.

Stakeholders engaged with the issue of coastal erosion were pleased with a draft coastal erosion toolkit, which is the first resource in the nation that consolidates the various physical processes influencing coastal and links these to climate variability and change. Participants at the dialogue

were pleased to trial the adaptation action planning components of the toolkit at the village of Mele on Efate Island which is experiencing extreme erosion from a variety of causes.

At the end of the weeklong Climate Services Dialogue, participants finalized their climate stories including sector specific climate early warning systems and key messages and best practices for coastal resource managers incorporating technical information and experiential knowledge. All felt that the timing of the dialogue was extremely timely given the potential onset of El Nino towards the end of 2014. The stories and experiences developed at the dialogue will form part of Vanuatu's official response program to ENSO events.

6. Malekula workshop

The *Increasing Access to and Understanding of Weather & Climate Information Workshop* was carried out in the provincial capital of the Malampa Province – Lakatoro. The workshop was organised by the Climate Division of VMGD and was conducted in partnership with the Climate Change and Disaster teams at VRCS. The main workshop was carried out over 3 days with one day set-up and planning prior to the workshop commencing and a one day organisational meeting at its conclusion.

The workshop was designed in four phases:

- Learning about weather and climate information and the resources available to train others on this.
- Learning about communicating and planning community awareness activities on these topics in Island Groups.
- Planning and undertaking a community awareness activity on one of the topics in Island Groups.
- Planning future awareness activities in groups.

The workshop was organised by the Climate Division of VMGD and engaged actors at a number of levels including:

- A 4 person National planning team – comprising a core team of 2 staff from the Climate Division and 2 staff from the VRCS plus others as required.
- A 2 person Provincial support team – comprising VMGD's Observations Officer and VRCS Provincial Officer.
- 14 Island, Area and Community level representatives – comprising VMGD's Rainfall Network, VRCS Volunteers and Department of Local Authorities Area Secretaries for the islands and communities in the province.
- A 2 person Support team - comprising VMGD's Communications Outreach and Partnerships Officer and Red Cross/Red Crescent Climate Centre's Pacific Advisor.

7. Indonesia Agro-Met training

The Agency for Meteorology, Climatology and Geophysics of the Republic of Indonesia (BMKG) conducted a Training of Trainers of Climate Field School at the BMKG Training Facilities in Citeko-Bogor, Indonesia from 26-29 August 2014.

The CFS Training of Trainers (ToT) program was designed for NMHSs staff to emphasize how to deliver climate information to increase extension workers knowledge on the application of climate information for farmers. It provided an opportunity to share experiences from Indonesia in implementing Climate Field School (CFS) Programs in Asia Pacific countries which need to raise capacity development levels for food security programs.

8. Futuna Care International Festival

From 3rd to 5th September 2014, two climate officers participated in the Agriklaemaptesen Festival held at Futuna. The aim of the festival was to present the results and achievements of the variety of different traditional and agricultural livelihood activities that communities have been undertaking as they adapt to climate change. These activities were funded by Australian Aid in partnership with CARE International in Vanuatu.

During the Festival the climate officers participated and contributed to the festival through:

- Booth displays; displaying the products and services of the Climate Division. There was a focus on seasonal forecasting and how services can help the community adapt to anticipated climate events.
- Awareness presentations on ENSO events, seasonal forecasting and Traditional Knowledge.
- Interviews with community elders and Traditional Knowledge data collection.
- Judging the Ishia Primary school poem and essay competitions on the impacts of climate change on Futuna and how we can adapt to these changes.

The Festival allowed the officers to see the community notice boards set up by Care International and showed the Vanuatu Climate Updates displayed on the boards. Although the displaying of Climate Updates reflects a step forward and big achievement for the Department in being able to provide information at community level, it also highlighted gaps that exist. For example, some community members found that VCU information is too scientific and difficult to interpret. One recommendation is to continue building the capacity of rainfall collectors so that they can extract relevant information from VCUs and advise their community.

Achievements Comment

The overall report for 2014 shows that 74% of all activities were well completed. This is a reflection of good team work amongst officers within the Climate Division, other VMGD divisions, stakeholders (Vanuatu Government and NGOs) and donor partners. In particular, the Climate Division would like to thank the collaboration and partnership between VMGD Climate Division, Red Cross Climate Centre, Australian Red Cross and Vanuatu Red Cross for the engagement of the two Red Cross Volunteers who helped within the Climate Division. Their successful placement shows that with collaboration and partnership, VMDG can achieve great heights. Thank you very much to the Vanuatu and Australian Government for their commitment of funds to the Climate Division which enabled the Division to carry out its 2014 activities.

Challenges Comment

When comparing this year with the previous year, the climate division has performed extremely well. The Department did face many challenges however, including the loss of staff members as they pursue further studies or undertake employment elsewhere. The reduced number of officers has hindered the progress of the Division, particularly with regards to its agro-met service which has been a challenge since the second half of 2013 and has affected activity outcomes in 2014 as well.

Finally, funding availability, weather related issues, sickness and officer unavailability also caused the delay of some activities and indeed some were not carried out at all during the 2014 business plan timeframe.

Staffing

The following table provides information about the staffing of the Climate Division in 2014.

Staffing	Details
Numbers:	Total staff [8] – Permanent [6], Temporary [2]
Performance Appraisals Conducted:	Annual appraisal conducted for [5] staff
Study Leave:	Silas is on study leave starting 2013 for three years pursuing PhD studies. Mike has moved to Ministry on an acting basis as HRO. Melinda has enrolled in a few units at the University of the South Pacific, Emalus campus and is on study leave in 2015-16.
Secondment:	Salesa has agreed to move on and his position has been occupied by Philip Malsale.
Annual Administration Leave:	Total number of staff who took Administration Leave: 2
Other Leave/Resignation/Retirement:	Total number of staff who took sick leave during 2014: 3

4. Climate Change and Disaster Risk Reduction Division

2014 Priority Activities and Results – Climate Change and Disaster Risk Reduction Division

The Climate Change and Disaster Risk Reduction Division contributes to VMGD purpose by being an effective Division in the management, operation and integration of climate change and disaster risk reduction activities and projects, by way of qualified, skilled and motivated staff appropriately trained and participating actively in national, regional, and international climate change programs, and working effectively with local, regional and international partners.

The Climate Change and Disaster Risk Reduction Division implements and operates an effective and efficient Climate Change Project Management Unit deploying qualified, skilled and motivated staff with appropriate access to sufficient resources, to manage and operate the implementation and integration of climate change and disaster risk reduction programs and projects to support national level commitments to Climate Change and Disaster Risk Management multilateral agreements.

The following are key outcomes identified by the Climate Change and Disaster Risk Reduction Division:

- Develop integrated climate change and disaster risk reduction action plan(s);
- Updated governance for climate change and disaster risk reduction;
- Ownership of climate change and disaster reduction integration; and
- Contribute to regional and global integrated climate change and disaster risk reduction agenda.

Priority Activities and Results 2014

Programs and Objectives required by the 2014 Business Plan and results are summarized in the table below and commentary is provided in the following text.

Climate Change and Disaster Risk Reduction Division (Business Plan)			
Programs	**Objective (Targets)**	**Result** ✓ ✗	**Result Summary**
Secretariat Services for the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB)	NAB operating as a well-functioning decision-making and advisory body	✓	Six NAB meetings were convened throughout 2014. Most meetings focused on the endorsement of new projects and projects in the pipeline developed by key government sectors as well as civil society organizations.
Coordination of all CC and DRR initiatives in Vanuatu	PMU and NAB is aware of all CC & DRR activities being undertaken or planned in Vanuatu and coordinates to ensure complementarity	✓	PMU developed a project brief form in 2012 revised in 2013. This project brief provides an overview of all CC/DRR related projects and initiatives planned or proposed. PMU then issues an endorsement letter to the implementing agency. These records are managed by PMU communications officer. In 2014 fifteen projects and initiatives were endorsed by NAB.

	PMU supports and facilitates the implementation of CCA/DRR programmes and projects with NAB stakeholders	✓	To date six large multi-sectoral projects are managed if not supported by the PMU. These projects include the World Bank projects namely; IRCCNH, MDRR and REDD+ projects, the UNDP-PRRP and V-CAP projects, and the ICLIM project. Apart from projects PMU continues to provide secretariat services to the NAB and coordinates international and regional agendas on CC/DRR on behalf of the government of the Republic of Vanuatu. Such included the coordination of COP20 meeting, SIDs meeting in Samoa and several other COP related meetings attended by the Manager of PMU in 2014.
Advisory Services	PMU provides timely and appropriate advice to GoV, NGO and CSO actors on CC and DRR issues	✓	PMU continues to advise the national and local actors on CC/DRR initiatives based on decisions executed through the NAB on a daily basis. PMU provides secretariat services to NAB and continues to actively participate in key sector meetings and conferences related to CC/DRR agendas.
Policy and Strategy	Finalise a national CC & DRR policy and action plan	✓	The policy work was initiated by EU-GCCA project in 2012 mainly involving desk reviews of what documents exist both nationally and internationally. The UNDP-PRRP then continued the work left by EU-GCCA in 2013-2014 engaging an international consultant to consult with all six provinces in order to develop the policy further. At December 2014 a policy draft was released for comment by all actors. The policy is now at final stages and is expected to be launched in mid-2015.
Project Management and Operations	Effective PMU coordination and project management PMU adequately staffed	✓	To date there is adequate number of staff within the PMU to be performing the functions stated in the NAB booklet. With the increase in the number of projects managed through PMU, there is also an increase in the number of staff to facilitate the implementations of these projects. In 2012 there were four (4) staff recruited to the PMU, In 2013 a total of 8 and in 2014 a total of 12 staff recruited into PMU to support sectors with different projects. Apart from staff PMU has recruited and engaged 20 international consultants throughout 2014. (See staffing section for details).
International CC & DRR obligations	Support and facilitate the national implementation of international CCA/DRR obligations	✓	PMU staff played a key role in coordinating the Vanuatu delegation at the SIDs conference in Samoa in September 2014. At the conference PMU officers coordinated the meetings relevant for Vanuatu's attendance on a daily basis. Apart from SIDs conference PMU represented the Vanuatu government in the following meetings in 2014 – Loss and damage, APAN meeting, UNDP-PRRP board meeting, ICLIM planning meeting, PCCP advisory and technical meetings.
Participation in international agenda	Raise capacity of GoV representatives to	✓	Each PMU staff is designated to participate and contribute to international fora. PMU manager coordinated the UNFCCC-LEG meeting in October

	participate in international fora		2014. M&E officer and Communications officer supported the coordination of SIDs delegation in Samoa in September 2014.
Adaptation & DRR	Build the foundations for more effective CCA & DRR work in Vanuatu	✓	The CC/DRR policy is at the final stages of completion. The UNDP-PRRP worked in collaboration with PMO to complete and finalize the policy. This policy document sets the foundation and will guide the implementations of CC/DRR initiatives in Vanuatu.
Climate Change Mitigation	Improved GoV oversight of CC mitigation projects in Vanuatu	✓	PMU is lacking a mitigation officer. Two mitigation projects were endorsed by NAB in 2014 and currently managed through the department of Energy.
	Mainstream CC perspectives into energy-related projects and improve CC mitigation outcomes	✓	(As above…)
Financial Management & Procurement	Establish PMU capacity to manage donor funds	✓	With technical assistance PMU managed to develop guidelines related to managing EU and World Bank financial procedures. PMU currently has a finance manager who is the only trained personnel able to operate the EU SARA financial system in Vanuatu. PMU also has a procurement officer. A total of three trainings related to world bank procurement and financial systems were delivered to PMU by the world bank in 2014. Procurement and Financial management advisors currently sit within PMU to train and support the local officers.
	NAB oversight of all GoV managed CC&DRR funding	✓	As mentioned above, six NAB meetings in 2014 to endorse new projects and initiatives in Vanuatu.
Monitoring, Evaluation and Reporting	Monitor progress and outcomes of government and externally funded CC & DRR projects	✓	Each donor funded project has its M&E framework to monitor and report on progress. Emails and regular online updates play an active role for M&E purposes. There is no overarching M&E framework within PMU since there are several donor funded projects with their specific requirements therefore all M&E framework in place are project specific. All projects also have different frequencies in reporting.
	Monitor and evaluate the work of the PMU	✓	A risk governance assessment was completed in late 2013 and early 2014 supported by UNDP-PRRP programme. Some of the recommendations are now being implemented by PMU and relevant sectors. An evaluation was conducted in late 2014 assessing the progress of an IRCCNH project but also assessing PMU and NAB involvement. Recommendations from this evaluation guided the implementations of the next phase of the multi-sectorial world bank project (IRCCNH)
Information management	Collect, manage and make accessible data and information on CC & DRR	✓	The Communications Officer and M&E officer participated in four PCCP advisory meetings in 2014. Some of the discussions included the linking up of the NAB portal to the PCCP (regional portal)

	knowledge and activities relevant to Vanuatu		which the two officers are managing locally. The NAB portal is well functioning with an average of 40 users per day recorded in December 2014. This illustrates the number of people accessing information from the NAB portal. ICLIM project endorsed in 2014 will support further development of the NAB portal.
Communication & Engagement	Raise awareness of NAB and PMU activities	✓	Awareness of the NAB and PMU is continually raised through the participation of PMU staff at regional and international conferences such as the LEG meeting, SIDs conferences, COP meeting and mostly through the NAB portal access.
	Build partnerships with VMGD sections, NDMO and NAB stakeholders	✓	PMU communications Officer is the co-chair of the communications, outreach and partnership internal working group (COPWIG) of VMGD. Seven COPWIG meetings were convened in 2014 to discuss VMGD key messages, glossaries, one VMGD product and the continued partnership for divisions within VMGD. This working group has been functioning very efficiently. PMU Communications officer also coordinated the radio programs for VMGD in 2014. All divisions within VMGD managed to raise awareness of their products through the radio programs and talk back shows.
Training and capacity building	Increase PMU, VMGD & NDMO staff capacity to implement NAB agenda	✓	An assessment is required to demonstrate the increase in capacity however the participation of officers in international meetings and conferences provides an avenue that supports capacity building. Several meetings were attended by officers within VMGD and NDMO.

Climate Change and Disaster Risk Reduction Division Projects			
Programs	**Objective (Targets)**	**Result** ✓✘	**Result Summary**
IRCCNH	Increasing resilience of local communities to adapt to climate change and natural hazards	✓	(See below)
MDRR	Strengthen urban planning and tsunami preparedness	✓	(See below)
UNDP-PRRP	Communities are more resilient to risks from climate change and disasters.	✓	(See below)
ICLIM	Supporting the regional management of climate change information in the Pacific	✓	(See below)
V-CAP	To improve the resilience of the coastal zone to the impacts of climate change in order to sustain livelihoods, food production and preserve and improve the quality of life in targeted vulnerable areas	✘	
RPP REDD+ (FCPF)	The RPP sets out how Vanuatu intends to develop its REDD+ programme which is referred to as the National REDD+ scheme.	✘	

NAB/PMU coordination of all CC/DRR initiatives in Vanuatu

Six NAB meetings were held in 2014 mostly focused on the endorsement of new projects and projects in the pipeline developed by key government sectors as well as civil society organizations. The following table lists all projects endorsed by NAB in 2014.

Project Name	Type/Theme	Funding source	Lead Implementing agency
AECOM Pacific Australia Climate Change Science and Adaptation Planning (PACCSAP) Program	Infrastructure - Economic analysis of climate change adaptation options to protect low-lying settlements and critical infrastructure	Australian Aid - Pacific Australia Climate Change Science and Adaptation Planning (PACCSAP) Program	Public Works Department
Nambawan Vanuatu REDD+ Project	REDD+ Implementation	Private equity - possible CDM Bazear loan	Vanuatu Carbon Syndicate Company to be registered
PACC project	Infrastructure – Climate proofing coastal infrastructure construction works to be completed in 2015	SCCF via UNDP and SPREP	Department of Public Works
SNC (Second National Communications)	Climate change focus- draft developed in 2014 and validated. Submission in 2015	Funded by GEF via UNDP	Ministry of Climate Change
EDF10 ACP-EU Project: Building Safety & Resilience in the Pacific	Multi-sectorial		National Disaster Management Office
WISE REDD+ Project	Education support for Government Program	United States of America Department of State (Funding goes through Conservation International who manages the project at the global level for five countries including Vanuatu)	Conservation International and Live and Learn Vanuatu
Climate Zone National Competition 2014	Youth and student engagement in climate change, written and oral quiz	GIZ	MOE
ICLIM Project	Climate Change data and information management	DFAT (Department of Foreign Affairs and Trade – Australian Government	Griffith University and SPREP (piloting in three countries; Vanuatu, Fiji and Tonga
LIDAR Capture for Aneityum	Survey and Mapping Research to assess environmental change	Australian Aid - Pacific Australia Climate Change Science and Adaptation Planning (PACCSAP) Program	Ministry of Climate Change

Specific information on projects is captured through project brief form developed by PMU to support the NAB endorsement process. Once projects are endorsed, all information is recorded in a database managed by PMU Communications Officer. A letter is issued to all lead implementing

agencies to advice on the status of endorsement. In 2014, fifteen projects, ideas and concepts were received by NAB for endorsement.

To date, six large multi-sectorial projects are managed if not supported by the PMU. These projects include the World Bank projects namely; IRCCNH, MDRR and REDD+ projects, the UNDP- PRRP and V-CAP projects, and the ICLIM project. *(see information under project updates)* Apart from project work, PMU continues to provide secretariat services to the NAB and coordinates international and regional agendas on CC/DRR on behalf of the government of the Republic of Vanuatu. These include the coordination of COP20 meeting, SIDs meeting in Samoa, LEG meeting hosted by Vanuatu, Regional meetings and several other COP related meetings attended by the head of PMU and the Ministry in 2014.

Participation in International CC/DRR agenda

PMU Manager assigned each PMU staff to follow and participate on international and regional agendas in 2014. The following table summarizes all regional and international meetings attended by PMU staff in in 2014;

CC/DRR Theme	Designated PMU Officer	Meeting/Conference outcomes	Coordinating agency/ Venue
ADP - Adhoc Working Group to the Durban Platform (under the UNFCCC) Workshop	Communications Officer	Vanuatu representative to the G77 plus China, SIDs and LDCs	UNFCCC secretariat Bonn, Germany
PIFFAC M&E Workshop and APAN meeting	M&E Officer	Key discussion outcomes on the 6 PIFACC thematic areas and indicator reporting on country progress so far against the PIFACC indicators. A country profile was edited and reviewed as a product of this exercise. This country profile has been uploaded to the pacific Climate Change portal (PCC)	SPREP – Climate Change Division, Apia-Samoa
UNFCCC negotiations training	Communications Officer	SIDs negotiators training towards COP meetings	UNIDAD – UNDP- DFAT partnerships Singapore
ICLIM planning workshop	VMGD-ICT Manager and PMU M&E Officer	Planning of activities for ICLIM project managed by Griffith University and SPREP piloted in Fiji, Tonga and Vanuatu.	SPREP and Griffith University Brisbane
Small Islands Developing States (SIDs) conference	Communications Officer and M&E Officer	A successful side event with 60 participants. Vanuatu showcased the data and information management through NAB portal at the national level along with Tonga and Fiji as pilot countries. SRPEP presented the PCCP.	UNFCCC secretariat Apia, Samoa
LEG Meeting	Coordinated by PMU Manager and attended by PMU team	Reviewing the National Adaptation Plans - countries	UNFCCC Port Vila, Vanuatu

Cost benefit Planning meeting	Principal Scientific Officer, CC-DRR	Planning of activities for Cost benefit analysis at country level	GIZ Nadi - Fiji
Adaptation fund training	Principal Scientific Officer, CC-DRR	Regional training for countries to learn about project development process	GEF & CTN Apia- Samoa
Adaptation Committee Meeting	Principal Scientific Officer, CC-DRR	Vanuatu representative to G77 plus China, SIDs, LDCs and AOSIS	UNFCCC Secretariat Bonn - Germany

Reviewing the Vanuatu NAPA at LEG meeting

Media press conference at VMGD during cyclone season launch, 2014

Project Updates

Increasing Resilience to Climate variability and change and natural hazards (IRCCNH) funded by the World Bank

The designated implementing agency is the Vanuatu Meteorology and Geo-hazards Department (VMGD), within the Ministry of Climate Change Adaptation, Meteorology, Environment, Energy and Disaster Management (MCC). Given the complexity of the main purpose of the project, 'to mainstream Climate Change Adaptation and climate-related Disaster Risk Reduction', the implementation of the project also requires the involvements of other governmental departments based within the same Ministry: the National Disaster Management Office (NDMO) and three other Ministries: the Department of Local Authorities (DLA), under the Ministry of Internal Affairs, for Component 2; the Department of Agriculture and Rural Development (DARD) under the Ministry of Agriculture, Quarantine, Forestry and Fisheries, for component 3.1; and the Department of Geology, Mines and Water Resources (DGMWR), under the Ministry of Lands and Natural Resources, as well as of one governmental agency: the Vanuatu Agriculture Research and Technical Centre (VARTC).

In terms of implementation and impact, in these first two years, most efforts have been put into setting sound foundations for the project in terms of institutional and organisational setting, funding agreements, financial and accounting systems, internal procedures and HR arrangements (Component 1). These include the establishment of a Project Management Unit (PMU), hiring local and international staff, refurbishing offices as well as the acquisition of key equipment for the functioning of the PMU and of the all departments involved in the implementation of the project.

Prioritising the institutional strengthening and development has not prevented delivering tangible results under the rest of the components (2, 3 and 4). Contrarily, focusing on the institutional aspects of the project has allowed to setting structures and processes that clearly are supporting the implementation of the whole project in a coordinated and coherent manner and increase government's capacity of absorption and implementation effectiveness for the second and final phase of the project. Further, the institutional focus has also supported achieving results within other climate change related projects in country.

Summary of project activities delivered at component level during the two first years of the project:

- Start of the project, and continued support to PMU administration and staff with recruitment, FM, Procurement and M&E reports produced, workshop and training
- 2 NDMO Provincial disaster offices being established (TAFEA & TORBA), with 2 trained officers and risk assessments in progress
- Installation of VMGD real time communication systems in progress including manuals on warning dissemination and radio network infrastructure
- Development of DLA guidelines for council development plan, and support to the Vatu Mauri Consortium to initiate a micro-project mechanism
- Resilient root crops being researched and distributed from VARTC which is also being refurbished
- 2 root crop DARD demonstration sites for Kumala with key farmers identified
- RWS Surveys completed, site identification completed for 30 water tanks, and Guidelines on Water Standards finalised
- Mid Term Review preparations underway

PMU meeting with EU ambassador and DG-MoCC

Mainstreaming Disaster Risk Reduction Project (MDRR) funded by World Bank

The Mainstreaming Disaster Risk Reduction project in Vanuatu is implemented by the Vanuatu Meteorology and Geo-hazards Department and intends to strengthen the urban planning and tsunami preparedness in the main urban areas through a tsunami warning systems to be installed in Port Vila and Luganville towns to help the urban population and their surrounding rural areas prepare for tsunami. The resources provided by this project will strengthen the NAB and assist the Government to conduct thorough hazard and risk assessment in the urban areas and use the data to inform national land use planning policies including the design of a Tsunami warning system for both urban areas.

With this intention, initial consultations have been carried out with various stakeholders of the project from April 30th to May 21st 2014 which the project have gathered relevant information to help with planning of activities and other logistics preparations towards rolling out the necessary awareness programs of the project.

Following on from that initial consultations way-forward and outcomes, the need for one on one stakeholder inception workshop with the main stakeholders – Port Vila Municipal Council, Luganville Municipal Council councilors, Sanma and Shefa provivincial governments authorities and leaders and the Local Civil Based Organisations were planned in order to proceed further with the awareness aimed at creating partnerships with them and the project in Vanuatu. As a result of having the series of workshops from August to November 2014, municipal boundaries and provincial peri-urban boundary lines and focal points were clearly identified and confirmed. The stakeholder workshops are the first of its kind as a starting stage to the MDRR project in its preparations to roll out the outreaching and awareness programs to prepare PVMC authorities for future activities and programs. The workshops involved the presentation of the MDRR project's components and purpose, which resulted in constructive discussions and suggestions as a way forward with the responsible contact persons from the Municipality council and councillors for both townships.

Another major activity achieved was the selection of the BECA International Consulting Firm which will undertake all the risk assessments, mapping and planning for the urban preparedness for Port Vila and Luganville prior to the installation of the sirens which will be implemented in the second phase of the project. With this progress, BECA have already completed their inception visit to Vanuatu in February and a draft Inception Report has been submitted for review and approval by the Executive Committee members in early June 2014.

Summary of communications and outreach activities delivered at component level during the two first years 2013 – 2014 of the project:

- Development of four video slots to promote the project through the Television Blong Vanuatu in May to June 2014.
- 21 weekly radio programs by all Divisions of VMGD on their products and services broadcasted by the Radio Vanuatu.
- Advertisement slots created and aired through Radio Vanuatu and Paradise FM98.

MDRR workshop with Port Vila Municipal Council

UNDP Pacific Risk Resilience Programme (PRRP) funded by DFAT

The Pacific Risk Resilience Programme (PRRP) is a five year programme funded by the Australian Government Department of Foreign Affairs and Trade (DFAT) with a total budget of US$16.1m. It is due to complete all activities in July 2018. It is delivered through a partnership between UNDP and the International NGO Live and Learn Environmental Education (LLEE) and lead government agencies in four participating countries – Fiji, Solomon Islands, Tonga and Vanuatu. The programme has been operational in Vanuatu since 2013 with the signing of an Aid Memoire between UNDP and the government of Vanuatu in February 2013. The main government focal agency is the Ministry of Climate Change (MoCC).

Vanuatu is one of the four countries in the PRRP and is known for three notable achievements to date. Firstly the completion of government endorsement of the Risk Governance Analysis (RGA) which will provide lessons learned for other countries. A critical ingredient for achieving end-of programme outcomes has been and will continue to be the leadership of the NAB. Secondly the progress for integration of CCDRM at the provincial level planning and budgeting including the area Council Development plans in Aniwa and Aneitym. Subsequently a provincial planning, budgeting and monitoring guide with the CCDRM integrated are now finalized by DLA. Finally PRRP has secured a successful partnership with Digicel Vanuatu on the application of mobile telephony for CCDRM awareness raising campaigns – this led to over 35,000 people participating in a national climate change quiz which demonstrates the potential for the application of mobile telephony as an alternative to traditional media. A partnership is being established between the private sector and the key government agencies including NDMO, Education and Agriculture line ministries. PRRP also supported the provincial consultations for the CCDRR policy which is now at final stages of completion.

Pacific iCLIM Project funded by DFAT

The Pacific iCLIM project is a regional project focusing on establishing a regional system for managing and sharing climate change data and information in the Pacific. The project is being implemented by Griffith University in collaboration with SPREP, commencing on 3 March 2014, with an anticipated completion date of 30 June 2016.

The establishment of a Pacific regional system for managing and sharing climate change data and information is being carried out in collaboration with three pilot countries (Fiji, Tonga and Vanuatu), who are already involved in implementing national level portals, procedures, policies and practices that will enable connectivity to the SPREP hosted PCCP.

The Government of Vanuatu is in the process of finalizing the draft National Climate Change and Disaster Risk Reduction (CCDRR) Policy. The vision of this Policy is for Vanuatu to be resilient to climate change impacts, natural and geological risks, which will be achieved by targeting the five key priority areas of governance, capacity, information, preparedness and knowledge.

The CCDRR policy prioritization of information focuses specifically on improving Vanuatu's management of climate change and disaster risk reduction data and information in order to enable more informed decision making for planning, development and disaster operations, and development of accurate community awareness tools. The ICLIM project is contributing to the area of information management and knowledge sharing related to climate change and disaster risk reduction. ICLIM is implemented by VMGD-ICT division in collaboration with the PMU with specific support and development of the NAB portal.

Vanuatu hosted side event on NAB portal, SIDS Meeting, Apia

Financial Management and Procurement

With technical assistance PMU managed to develop guidelines related to managing EU and World Bank financial resources. With the establishment of financial and procurement systems, PMU is better equipped to manage World Bank funds and better coordinate with implementing agencies. PMU senior finance officer is the only trained personnel able to operate the EU SARA financial system in Vanuatu and PMU is fortunate for this achievement. PMU procurement officer has undertaken three trainings related to World Bank and EU procurement. A total of three trainings related to World Bank procurement and financial systems were delivered to PMU by the World Bank between March 2013 and December 2014. Procurement and Financial management advisors have been recruited and will continue to support the PMU in 2015.

Monitoring, Evaluation and Reporting

Each donor funded project has its M&E framework to monitor and report on progress. Emails and regular online updates play an active role for M&E purposes. There is no overarching M&E framework within PMU since there are several donor funded projects with their specific requirements therefore all M&E framework in place are project specific. All projects also have different frequencies in reporting.

A risk governance assessment was completed in late 2013 and early 2014 supported by UNDP-PRRP programme. Some of the recommendations are now being implemented by PMU and relevant sectors. An evaluation was conducted in late 2014 assessing the progress of WB-IRCCNH project but also assessing PMU and NAB involvement. Recommendations from this evaluation guided the implementations of the next phase of this multi-sectoral World Bank project (IRCCNH)

Achievements Comment

NAB/PMU was fully dependent on donor funding to implement all its activities in 2014. NDMP-PRRP, MDRR and IRCCNH projects shared their resources to support the on-going operations and activities of the NAB/PMU throughout 2014. With support from VMGD, NDMO, PMO and other key sectors involved in CC/DRR agendas, PMU/NAB was able to achieve results planned for 2014.

Challenges Comment

Challenges related to the sustainability of PMU/NAB and obtaining government buy-in into the set up remains a challenge.

Staffing

The following tables provide information about staffing of the Climate Change and Disaster Risk Reduction Division in 2014. The number of staff at the PMU has increased since 2012 due to the number of projects being erected. All PMU staff are supported by projects on contract basis.

Staffing	Details
Numbers:	Twelve staff altogether including international consultants offering support when needed. Details of project funded staff; 2 – UNDP,PRRP 4 – WB, IRCCNH 4 – WB, MDRR 2 - PACC
Performance Appraisals Conducted	Varies depending on contract periods
Study Leave:	None
Secondment:	None
Annual Administration Leave:	All staff but varies according to contract periods
Other Leave/Resignation/Retirement:	None

VMGD Communications, Outreach and Partnerships Working Group

5. Geo-Hazards Division

Division Purpose and Key Outcomes

The Geo-Hazards Division contributes to the Department's purpose through the provision of qualified, skilled and motivated staff using modern science and technology to mitigate against potential impacts of geological hazards (earthquakes, tsunamis and volcanic eruptions).

The Geo-hazards Division Contributes to VMGD Overall Objective (High Level) through improving the accuracy, timelines, quality of Geo-hazards' information, alerts, warnings and services.

The key strategic outcomes for the Geo-Hazards Division are as follows:

(1) Improve early warning system for tsunami;
(2) Develop early warning system for earthquakes;
(3) Develop early warning system for volcanos;
(4) Improve accuracy, timeliness and quality of tsunami information and alerts;
(5) Improve accuracy, timeliness and quality of earthquake / seismicity information and alerts;
(6) Improve accuracy, timeliness and quality of volcanic information and alerts;
(7) Establish and develop Geo-hazards' mappings;
(8) Operate and manage volcano database; and
(9) Operate and manage earthquake / seismic database

2014 Priority Activities and Results – Geo-Hazards Division

Programs and Objectives required by the 2014 Business Plan are summarized in the table below with results and commentary provided. A more detailed description of objectives and results can be found in the text following the table.

Geo-Hazards Division (Business Plan)			
Programs	**Objective (Targets)**	**Result ✓✖**	**Result Summary**
Research and scientific collaborations	Improve current knowledge, and responses to volcanism, Seismicity and Tsunami	✓	1-Carry out scientific assessment in response to major volcano activity events 2-Coordinate & facilitate regional training workshop in Port Vila 3-Participate in regional and international conferences and seminars 4- Enhance collaboration with regional institutes to promote the regional geophysical network 5- Facilitate technical trainings relevant to Geo-hazards areas of work for Geo-hazards staff 6-Engage in research activities on earthquakes and tsunamis

			7- Engage in research activities on volcanoes of Gaua, Ambae , Ambrym, Lopevi, and Tanna
Tsunami Warning System	1-Tsunami inundation forecasting/modelling and hazard maps 2- Implement the Geo-hazards early warning system	✓ ✓	1.1-Contribute in the development of the tsunami warning signage project 1.2-Retrieve LIDAR data and training on using data for tsunami modelling/hazard mapping 1.1-Carry out the observations of earthquakes and volcanoes in real-time 24H/7 for tsunami and volcanic eruptions early warning
Earthquakes and volcano monitoring	1-Improve the seismic monitoring network 2-Set up and upgrade volcano monitoring network	✓ ✓	1.1-Upgrade the national seismic network by extending the network to Tanna , Malekula and Kleim's Hill 1.2-Maintain the Efate seismic network 1.3- Collaborate with Regional Partners in strengthening the Regional seismic network Vanuatu/New Caledonia with other observatories in the region under ORSNET 1.4- Maintain the Geoscope station for global earthquake monitoring network 1.5- Collect data and maintain the Santo/Malekula network 2.1- Installation of permanent monitoring stations on Gaua 2.2 Annual Volcano hazards Assessment and stations maintenance on Ambrym, Tanna, Ambae, Lopevi and Gaua 2.3 Geodetic and Geochemistry survey 2.4- Collect data and maintain volcano monitoring system

			2.5- Ground work for infrasound system installation for Lopevi and Yasur
Geo-hazards data/product management	1-Update Geo-hazards database	✓	1.1- Collect, analyse, backup and store volcano data in a daily basis from national and international monitoring network
	2- Issue and disseminate Geo-hazards information	✓	1.2- Collect, analyse, backup and store earthquake and tsunami data in a daily basis from nation al and International monitoring network 2.1-Issue earthquake occurrence bulletins for local communities as well as monthly and annual earthquake bulletins for scientific communities 2.2- Issue volcano Alert Bulletins for tourism industry and local communities as well as monthly and annual volcano bulletins for scientific and local communities 2.3 Review and develop specific education and awareness materials for specific audience 2.4 Participate in education and outreach missions in schools and during global events as WMO/WW day, sciences week, environment week

Geo-hazards management and operating procedures	1-Formalise the Emergency response Manual Operation Procedures for cases of volcanic eruption, earthquakes and tsunamis. 2-Manage Geo-hazards resources, plans and reporting	✓	1.1 Finalize SOPs for Post emergency responses 1.2 Review the Volcano Alert Systems 1.3 Finalize Geo-hazards operating manual /Geo-hazards Directive 2.1 Engage in the VMGD Business planning and annual budgeting for 2013/2014 2.2 Report annually and bi-annually on the Geo-hazards operations and achievements 2013 2.3 Assess staffs through staffs appraisal 2.4 Control the Geo-hazards assets

Geo-Hazards Division (Additional Activities)			
Programs	**Objective (Targets)**	**Result ✓✖**	**Result Summary**
Project Management	Ensure proper management of the projects that are relevant to Geo-hazards operations	✓	1.Contribute to the IRCCNH and MDRR project implementation planning 2.Manage the ORSNET project 3. Manage the VU-NC Cooperation project 4- Contribute in the new project development
Management of Geo-hazards Assets and Resources	Ensure all assets are well managed and fairness prevails		1.Part Good will Payment Deed of Release paid 2- Geo-hazards vehicle 3-Assets inventories

I- Research and scientific collaborations

I-1-Carry out scientific assessment in response to major volcano activity events

Since the 12th September 2013 the Geo-Hazards Division is ensuring closer monitoring on Ambrym volcano with daily risk assessments seven days a week.

An additional station was required to closely monitor the crisis, which was installed in September 2014. It is located in the area of Meltugun, West Ambrym. A small shed has been constructed to house the equipment.

On December 12th 2014 reports from pilots about the abnormal state of activity of Lopevi volcano warranted an aerial survey over Lopevi volcano by the NDMO and Geo-Hazards Scientific Officer. This was followed by the issuance of a volcanic alert bulletin enacting a no go Zone on Lopevi. This also warranted closer observations and monitoring of the volcano during the month of December with the installation of the web camera on Paama to visually observe the activity and collect data from Lopevi on a daily basis.

I-2-Coordinate & facilitate regional training workshop in Port Vila

The 3rd meeting of the Southwest Pacific seismic data sharing task team was held in Port Vila from the 26th to 27th May 2014. This meeting brought participants from National seismic observatories in the region including Fiji, Tonga, Samoa, Solomon Islands, New Caledonia, PNG, Australia and New Zealand. As well as global networks representatives from the International Research Institute of Seismology (IRIS), the Comprehensive Nuclear-Test Ban Treaty Organization (CTBTO), the International Tsunami information Center (ITIC), UNESCO and the Pacific Tsunami Warning Center (PTWC).

The meeting was sponsored by UNESCO through ICG/PTWS. The meeting focused on the Pacific Tsunami Warning System data sharing and the ORSNET concept. All ORSNET member countries attended the meeting. An introductory SEISCOMP training was conducted on the 28th May 2014. All Geo-Hazard division staff attended the meeting whilst the Acting PSO Seismology and Acting Data Processor/Analyst attended the training. Some ORSNET members are yet to use SEISCOMP3 in their operations. It is hoped that SEISCOMP3 will become the main operating software for seismic data for all ORSNET member states in the future.

I-3-Participation in regional and international conferences and seminars
The Manager Geo-Hazards has represented Vanuatu in 2 Working Group B meetings of the CTBTO in Vienna, the first from 17th to 28th February and the second from 18th to 29th August 2014. The Working Group is a meeting of experts from recognized institutions from signatory states of the CTBT.

I-4- Enhance collaboration with regional institutes to promote the regional geophysical network
Continuous exchange is underway between ORSNET countries. As part of the implementation of the ORSNET project, the Geo-Hazards division has been able to assist other Pacific countries to set up their automatic earthquake detection system for tsunami early warning.

The Geo-Hazards technical adviser made technical trips to Fiji, Tonga and Samoa under the ORSENT project to assist in the upgrade of their network towards the sharing of data from these countries.

In March 2014, the Deputy Director and Manager of Geo-hazards Division launched the ORSNET server in New Caledonia.

I-5- Facilitate technical trainings relevant to Geo-hazards areas of work for Geo-hazards staff

- Two months Training attachment with the Institute of Geology and Nuclear Sciences of New Zealand (GNS).

Training attachments were arranged with GNS for the Senior Volcanology Technician, Mr Janvion Cevuard from mid-January till end of March 2014 and for the Assistant Technician, Mr Athanaa Worwor from mid-September to end of November 2014. The aim of the training attachment programs is to ensure that the Vanuatu technicians gain more experience in their technical field, and to facilitate an understanding of working relations between scientists and technical staff as well as the importance of maintaining the real-time data transmission network.

- Graduate Certificate in Public sector Management

Two senior officers from the Geo-hazards Division, the Acting PSO Seismology and the Manager Geo-hazards successfully completed the Graduate Certificate in Public Sector Management Program at

the University of the South Pacific Emalus Campus. The Program consists of 2 courses; MG451 Governance and Public Sector Management and MG453 Public Policy Analysis and Leadership. Their completion of the Program was funded by AusAid and European Union through the Vanuatu Institute of Public Administration and Management (VIPAM) of the Public Service Commission. The first course MG453 took place between 10th and 28th March 2014 with the final exams on 4th April 2014. Whilst the second course MG451, ran from 9th to 24th June 2014 with the final exams on 2nd July 2014. The officers are awaiting graduation at the University of the South Pacific Emalus Campus on the 5th December 2014.

- Regional Training on New Enhanced Tsunami Products

The Data Processor/Analyst, Sophie Turere, and the Senior Forecaster Allan Rarai from the Weather Forecast Division attended a Regional Training workshop on New Enhanced Tsunami Products from 22nd to 24th May 2014. The training took place at the Tanoa International Hotel in Nadi, Fiji. The training was sponsored the ICG/PTWS and provided by the Pacific Tsunami Warning Centre (PTWC). The PTWC will commence use of these new products on October 2014.

- Geo-Chemistry in-house workshop

Nico Fournier from the Institute of Geological and Nuclear Sciences (GNS), New Zealand paid a visit to Vanuatu from 4th to 8th August 2014. During his stay in Port Vila, Nico provided in-house training to technicians and scientific staff of the Geo-hazards Division on volcanic gas emission flux measurement using FLYSPEC spectrometer, water parameters (pH and temperature) measurement and sampling techniques. A schedule will be drawn up for measuring volcanic gas flux and water sample collection around volcanoes in the near future.

- Strengthening National Emergency Operation center

The Acting PSO Seismology participated in a workshop on 'Strengthening National Emergency Operations Center' from the 26th to 28th August 2014. The workshop was organized by the National Disaster Management Office (NDMO) and facilitated by NDMO and other humanitarian partners. It was held at the National Emergency Operations Center (EOC). The workshop sought to provide knowledge and necessary skills for the operation, management and administration of EOC during natural disasters. It is hoped that such workshop will enhance the participants' knowledge and skills thus enabling them to respond more efficiently and in a well-coordinated manner during natural disasters in the future.

I-6-Engage in research activities on earthquakes and tsunamis

The Geo-Hazards Division continues to collect the seismic and GPS data in Santo and Malekula for research purposes in collaboration with scientific research Institutes in France particularly Dr. Wayne Crawford and Dr Valerie Ballu. The last mission done in these islands was in June 2014, conducted by Janvion Cevuard, the Senior Technician Volcanology. As part of this collaboration, Dr. Wayne Crawford has visited the Geo-Hazards Division from 28th September to 13th of October 2014 to assist the Division in the seismic data processing and analysis. He also assisted to establish proper seismic data quality control systems for the Division.

I-7- Engage in research activities on volcanoes of Gaua, Ambae, Ambrym, Lopevi, and Tanna

- A research application was approved for volcanic gas experts from France and the UK to carry out volcanic gas measurements on the volcanoes of Ambrym, Tanna and Gaua. Simon Cairn and Philipson Bani implemented the project in Vanuatu in August.

- The Division continued to collect volcano data for research purposes to be shared with French research institute under the ANR research project, working particularly closely with Philipson Bani from the French research institute for Development (IRD) and Sylvie Vergniol from the International institute of the Physics of the Globe in Paris (IPGP). The data shared in 2014 was collected from the Lopevi volcano monitoring station (acronym LPV) and the Yasur volcano monitoring station of Melkem (Acronym YAS).

- The Volcano Data Analyst completed a field assessment on Lopevi between the 20th and 29th July 2014 to complete a mapping exercise on Lopevi recent lava flows with the assistance of two university students of the University of Leisester in UK, Mr Ben Clarke and Ms Eleri Simpson in attachment with Geo-Hazards Division. This work aimed at developing the skills of the Data Analyst and to increase their familiarity with the mapping tools and field assessment techniques through exchanges with Ben and Eleri.

II- Tsunami Warning System

II-1-Tsunami inundation forecasting/modelling and hazard maps

1.1 Contribute to the development of the tsunami warning signage project

The Manager of Geo-hazards has been part of the QCBS exercise provided by World Bank to select the company required to carry out the urban zoning and planning for Port Vila and Luganville under the MDRR project for tsunami warning signage. This exercise have led to a selection of the company being required to develop the tsunami warning system and risk zoning for Port Vila and Luganville.

1.2 Retrieve LIDAR data and training on using data for tsunami modelling/hazard mapping

The Volcano Data Analyst took part in training in March 2014. This training aims to build her capacity in mapping with the use of Google Earth and QGIS. This training required the use of LIDAR data. The trained staff member has applied her mapping skills to other projects, particularly in VMGD-GNS joint project with volcanic hazard mapping and messages.

II-2-Implement the Geo-hazards early warning system

In 2014, Geo-hazards staffing was managed with an on-call roster. Three staff members are on the on-call roster daily unless there is an emerging event that would require other rotating roster arrangements. This roster is intended to allow for daily station checks to ensure the smooth running of the geo-hazards monitoring network and to support the Forecast Division on the Tsunami Early warning system.

At the end of 2014, three volcanoes can be monitored in real-time. These include Lopevi, Ambrym and Tanna. This is very useful to maintain the Vanuatu Volcanic Alert system. During the year 2014 the Vanuatu volcanoes behaved well.

III- Earthquake and volcano monitoring

III-1-Improve the seismic monitoring network

1.1 Upgrade the national seismic network by extending the network to Tanna, Malekula and Kleim's Hill

Surveys took place on Tanna, Efate and Malekula for the upgrade of the seismic network.

From April to May 2014, the new site for the 4th seismic station on Efate was surveyed and the site was identified on the Plateau of Tanoliu, in the yard belonging to Mon Voisin.

The Tanoliu Chief kindly agreed to work with the VMGD to make sure the station is installed.

1.2 Maintain the Efate seismic network

The station maintenance on the Efate network was completed in January and June 2014 and saw the upgrade of the station and installation of DM24 and *FREEWAVE* on Devil's Point Station (DVP), including maintenance work completed in June 2014.

In July 2014 the data transmission system of the Rentapau seismic station (RTV) using *FREEWAVE* was tested.

In August 2014, as well as other maintenance works, the seismic station shed at Devil's point (DVP) was upgraded, with the wooden door replaced with an iron door. The door replacement was funded by the IRCCNH project.

1.3 Collaborate with Regional Partners in strengthening the Regional Seismic Network Vanuatu/New Caledonia with observatories in the region under ORSNET

The main tsunami warning systems stakeholders particularly the Oceania Regional Seismic Network (ORSNET) countries were funded by the ORSNET project to get together in order to continue the discussion about the future of the ORSNET as part of the seismic data sharing meeting. A focus of the meeting was securing the consent and agreements of all countries to ensure the ORSNET project objectives are achieved. On May 27th 2014, the Minister for Climate Change and Natural Disasters of Vanuatu, Minister James Bule, officially launched the project followed by the signing of the agreement of funding by the Minister and the French Ambassador along with the cutting of cake by all the member countries of the ORSNET to seal the agreement to launch.

Countries submitted their letter of agreement to be active partners with Vanuatu through VMGD in the ORSNET project, particularly Papua New Guinea, Solomon Islands, New Caledonia, Samoa and Tonga.

1.4 Maintain the Geoscope station for the Global Earthquake Monitoring Network

The GEOSCOPE station in Santo has been closely maintained by the Division in collaboration with the IPGP in Paris. The cleaning of the station in SANVU is done by the local community in IRHO. Their labor cost is met by VMGD. Most of the rapid deployment for maintenance of this station is funded by the project of cooperation between Vanuatu and New Caledonia.

1.5 Collect data and maintain the Santo/Malekula network

The data collected from the Santo-Malekula network was completed by Janvion in June 2014 starting from Spigil Bay in Malekula; Butmas, Saletui, and Wusi. These data sets are shared with the scientific institutes that donated these seismic equipment for the ANR research project back in 2008. These stations will be upgraded in 2015 from the stand-alone to real-time stations under the IRCCNH project.

III-2-Set-up and upgrade the Volcano Monitoring Network

2.1 Installation of permanent monitoring stations on Gaua

In July 2014 a site survey was completed to identify an appropriate site for the installation of the web camera to take live photos of Gaua volcano. This mission also provided an opportunity to test the data transmission system from the volcano monitoring station at Metsalowon. The permanent station installation on this site is funded by the IRCCNH project and is to be completed in 2015.

2.2 Annual Volcano Hazards Assessment and station maintenance on Ambrym, Tanna, Ambae, Lopevi and Gaua

The Acting PSO Seismology was part of a mission to Southwest Tanna which took place between 8th and 12th September 2014. The mission was made up of representatives from the NDMO, the Department of Geology, Mines and Water Resources, the Department of Agriculture and Rural Development, the Department of Local Authority and Care International Vanuatu. Representatives acted as facilitators during workshops with communities. The workshops were designed to share their needs and challenges in response to the impacts of climate change and natural hazards. The workshops also aimed to evaluate how best the 'Increasing Resilience in Climate Change and Natural Hazards' (IRCCNH) project can work with these communities to help them become more resilient to the adverse impacts of climate change and natural hazards. It is hoped that if the communities understand the natural processes occurring in their surroundings, they will be more prepared to engage in activities that will increase their resilience to natural disasters in the future. One of the main outcomes of the mission is the mainstreaming of natural disasters into a Southwest Tanna Area Development Plan and the development of a Southwest Tanna multi-hazard map.

The Ambae volcano monitoring station was reinstalled in May 2014 after many weeks of station breakdown. The power and data transmission systems for this station were also upgraded adding an extra solar panel to increase the capacity of battery charging to ensure enough power even when the generator goes off. With the repeated breakdown of this station due to power shortage and

breakdown due to power cuts during normal operation at Saratamata where the data center is installed, the Division negotiated the upgrade for the setup of this system with the OGCIO and the data transmission line has been moved from the Public Works Department to the E-Government tower to ensure continuous power supply.

Similarly, following repeated breakdowns at the Yasur volcano monitoring station, the Geo-hazards technicians completed further maintenance there in March 2014. When the breakdown is simple it is handled by the local guardian, who is also VMGD rainfall collector for Nayanamakel, with instruction from the Geo-Hazards technicians.

2.3 Geodetic and Geochemistry survey

The Geodetic and Geochemistry survey was a mission planned in collaboration with Nico Fournier from the Institute of Geological and Nuclear Sciences (GNS), New Zealand, who paid a visit to Vanuatu from 4th to 8th August 2014 to commence discussion on the geodesy and geochemistry aspect of the project. Discussion sessions were held with the staff of the Geo-hazards Division and together with the Land survey Division of the Department of Lands. A task team was set up to work on a draft project proposal. Discussion were also held with Bruce, a Geochemist from GNS on

possible project collaboration on volcanic and geothermal geochemistry aspects. Unfortunately the mission was not completed.

2.4 Ground work for infrasound system installation for Lopevi and Yasur

From 9th to 13th May 2014, the team surveyed the data transmission system to transmit data in real-time from Lopevi to Port Vila. The survey was done on Paama on a hill slope near Tavie airport. A survey was also completed on Ambrym to source an additional site for Ambrym volcano monitoring. These site surveys were followed by the commencement of negotiations with land-owners of the potential sites.

2.5 Collect data and maintain volcano monitoring system

Data collection in Lopevi was completed March/April by Athanas. During this data collection mission the normal station check procedures were undertaken to maintain the stations' smooth functioning. In December 2014 a real-time data transmission system for Lopevi was installed and successfully tested to ensure its upgrade from stand-alone to real-time station. This system is transmitting data in real-time via the E-Government network through the gateway at Craig Cove. A web camera has been installed in Paama to view the volcano in real-time.

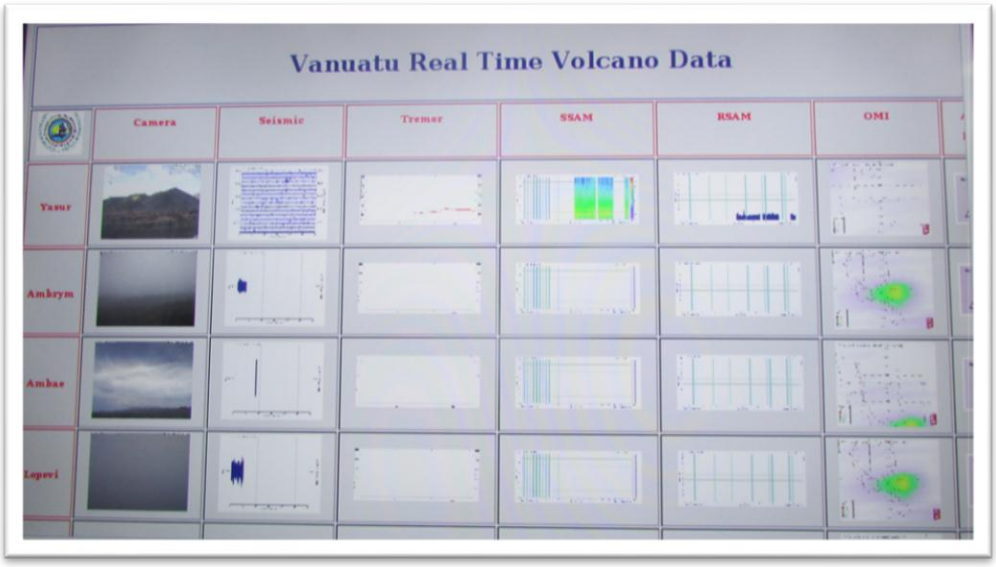
IV- Geo-Hazards Data management

IV-1 Update Geo-Hazards database

1.1 Collect, analyse, backup and store volcano data on a daily basis from National and International Monitoring Network

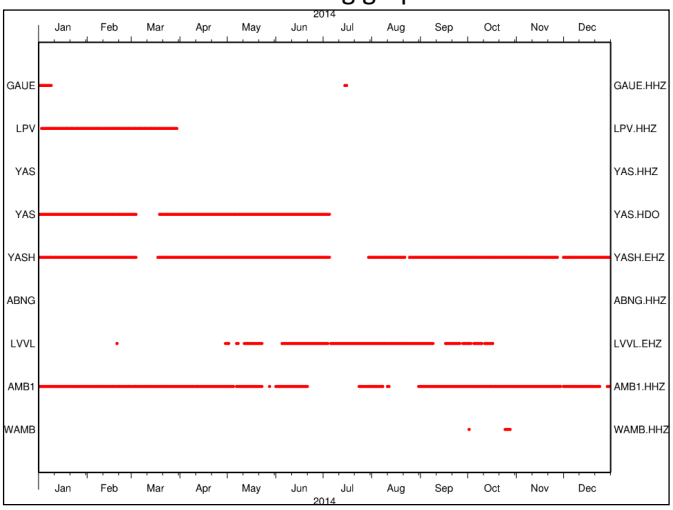
Volcanic Database Management

As part of the "Volcanic database to assess future eruptive activity" component within the VMGD-GNS joint project, Dr. Steve Sherburn from GNS sciences, New Zealand assisted the Volcano Data Analyst in to upgrade the Volcano Database in December 2014. The upgrade involved setting up the Nase server that centralizes and backs up all raw, processed and analyzed volcano data to allow all types of Volcano real-time data to be processed and analyzed in real-time and be simultaneously displayed in the dashboard form. This improvement allows the Volcano Data Analyst to display the processed data of all Vanuatu volcanoes in real-time.



Volcanic data availability

Volcanic data is collected by the Geo-Hazards in three categories. The real-time data that is transmitted from the Islands to VMGD and consists of live photo feeds; seismic data which is data collected from standalone stations on the islands; and finally data including seismic data collected via satellite and retrieved from satellite images which shows volcanic degassing or volcanic ash. The data is stored in the volcano database by type and by volcano. The availability of volcano-seismic data is shown in the following graph.



This calendar shows the volcano seismic data availability in 2014 (January – December 2014) from volcano monitoring stations.

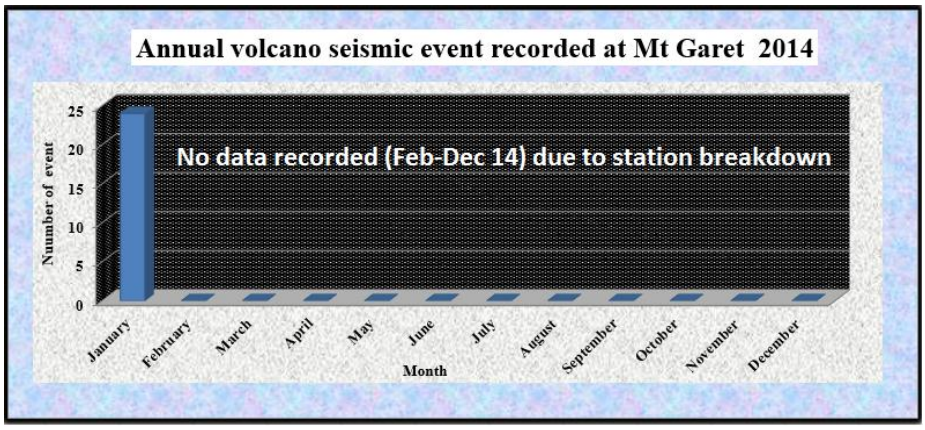
Note that the red track means data availability stored and the white space in between red track means missing data for real time stations (Ambae, Ambrym and Yasur volcanoes) or no retrieval data or missing data from stations (Gaua and Lopevi).

Volcano observation and parameters of real time data analysis

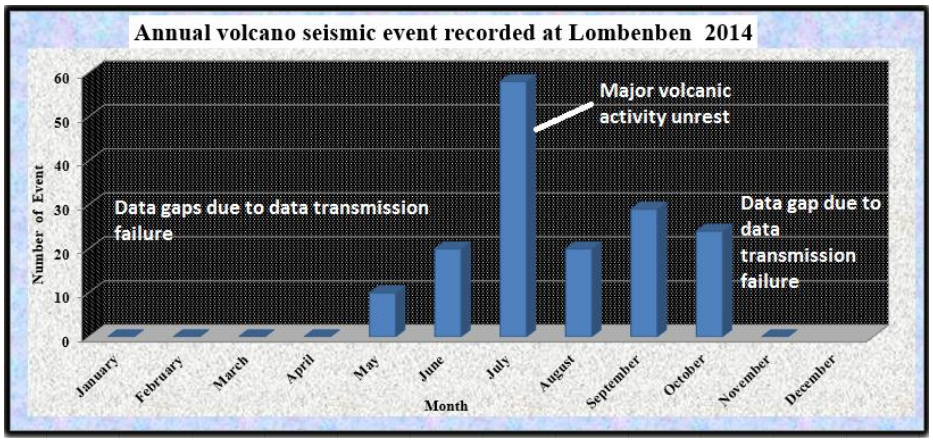
The analysis of volcanic data can help the division to make decisions on the level of threats which each volcano may pose. Volcano monitoring stations record any earth tremor beneath a volcano that differ from normal earthquake events, marked by their frequency band and waveform. These volcano-seismic events are identification signals for a state of activity of each volcano, the more they occur under a volcano, the more active the volcano concerned.

The graphics below show the data taken from each of Vanuatu's volcanos and reflect the differences in data, based on type of volcano and type of activity. The Volcano Data Analyst assesses all recorded volcano-seismic data before making any decisions.

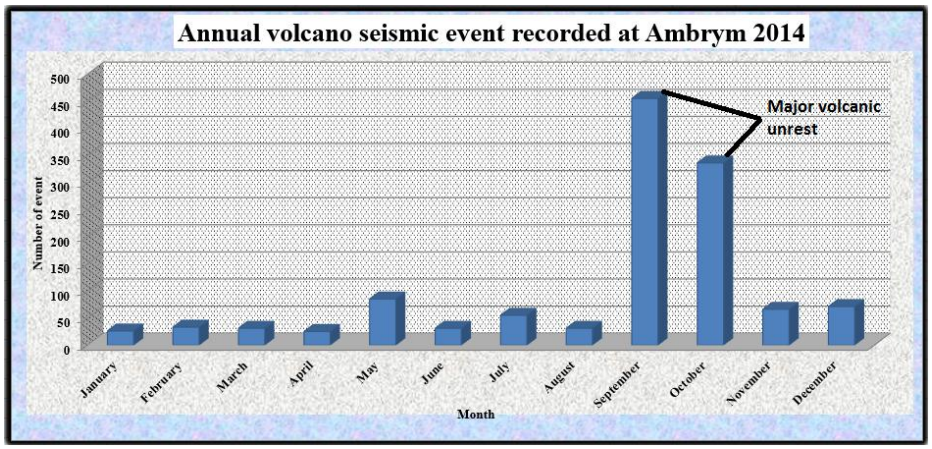
Gaua Volcano:



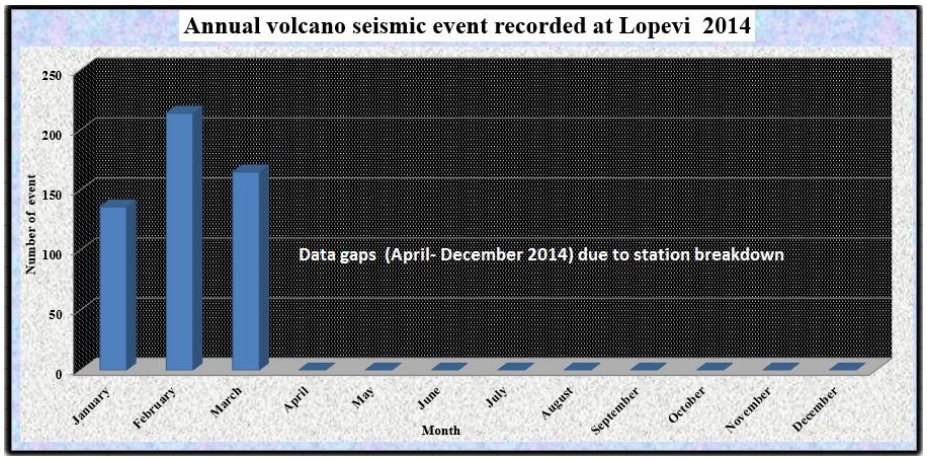
Ambae Volcano



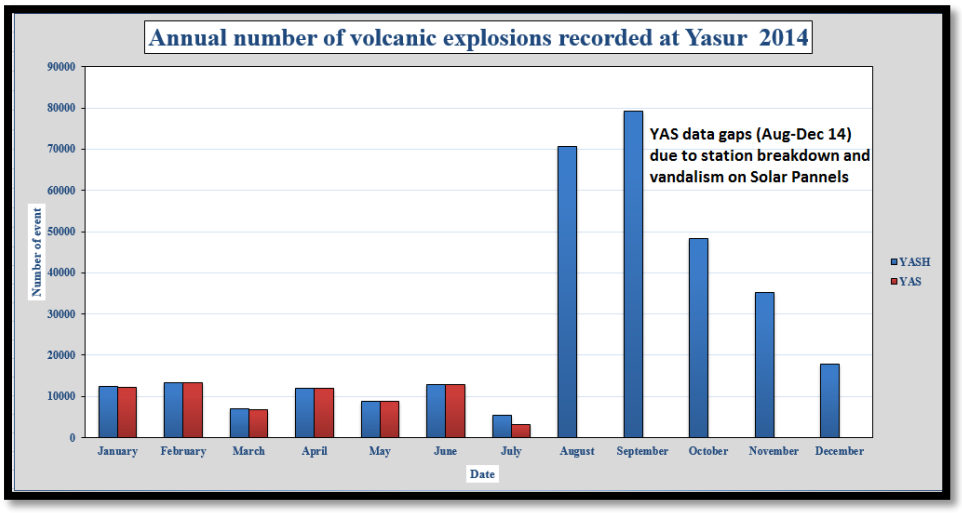
Ambrym Volcano



Lopevi Volcano



Tanna Volcano



Some volcanoes showed major activity unrest in 2014. However the recording was not continuous for all stations due to station breakdowns or vandalism; Only Tanna and Ambrym have a complete database.

1.2 Collect, analyse, backup and store earthquake and tsunami data on a daily basis for the National and International Monitoring Networks

Seismic database upgrade

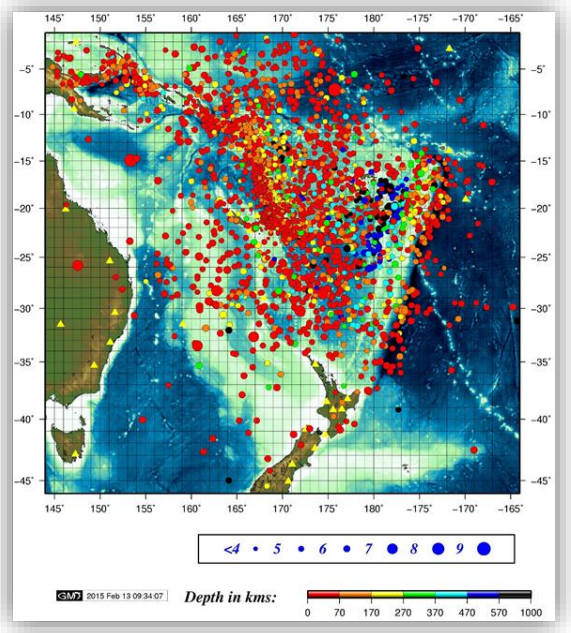
On a daily basis, the earthquake data is stored in the earthquake database. A seismic Nas server was purchased and installed to better manage the seismic data by archiving the raw, processed and analysed data and other reports related to seismic activities in Vanuatu.

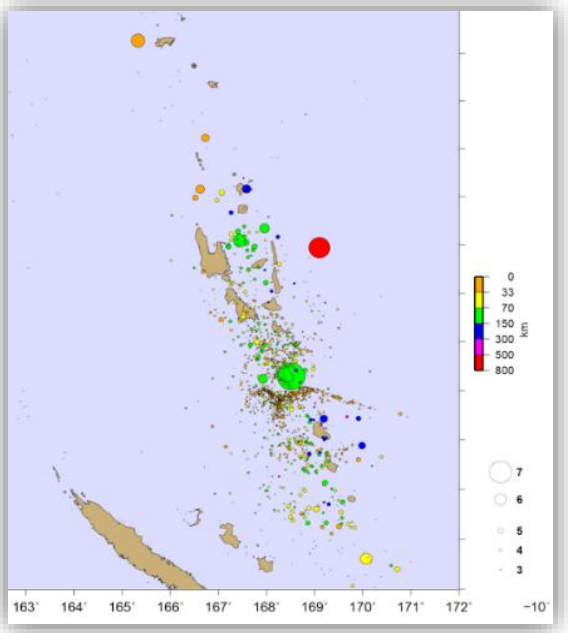
Earthquake detection and location

The following table summarizes the information of the analysis of earthquakes that occurred in Vanuatu during months of 2014 as indicated in the monthly bulletins.

Local Seismic Network –Seisan Analysis				
Date	**Located**	**No located**	**Total Events**	**Percentage %**
January	151	103	254	59.4
February	153	145	298	51.3
March	106	52	158	67.0
April	212	254	466	45.4
May	105	177	282	37.2
June	102	91	193	52.8
July	123	191	314	39.1
August	194	57	251	75.4
September	201	93	294	68.3
October	154	80	234	65.8
November	185	94	279	66.3
December	166	161	327	50.7
Total Events	**3350**			

The earthquake location system allows the Division to locate the earthquakes that occurred in Vanuatu but also those that occurred in the whole South west pacific region as displayed in the following maps.





The number of earthquake activities recorded by the Vanuatu Seismic Network monthly were not all located on the seismicity map due to distance of earthquakes to the closest station or due to other parameters that may not relevant for earthquake location. Monthly bulletins are issued at the beginning of each month highlighting the seismic activity in the country and the region, annual bulletin contains the information about the earthquake location all throughout the year.

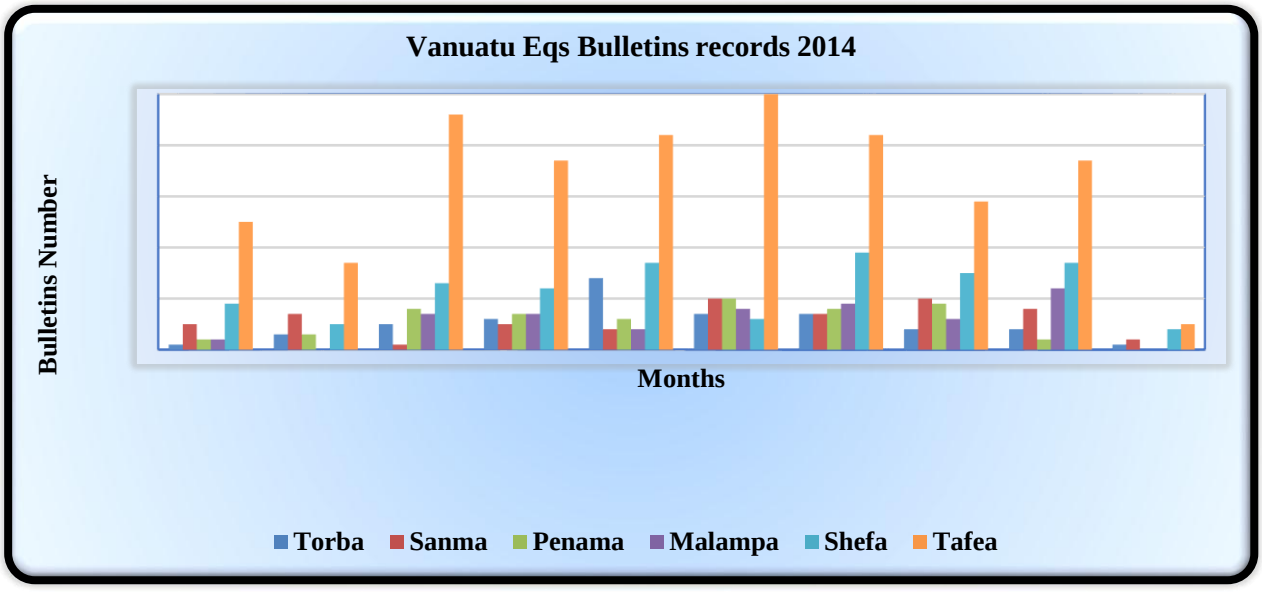
IV-2-Issue and disseminate Geo-hazards information

2.1 Issue earthquake occurrence bulletins for local communities as well as monthly and annual earthquake bulletins for scientific communities

All earthquakes of magnitudes greater than M6 during the last few months were easily physically felt, thus warranted the division to issue special earthquake bulletins to be disseminated to general public through the media. The following table gives a summary of those earthquakes.

Date	Events
2014/01/01	W Sola, TORBA at 16:02:28 M6.5 No Tsunami warning issued for this event.
2014/1/12	E TORBA Province at 10:41:00 M6.0 No Tsunami warning issued for this event.
2014/02/07	E Port Olry at 08:40:13 M6.5 This earthquake is well felt in the North Eastern Area of Santo Island, No Tsunami warning issued for this event.
2014/03/05	ESE Sola, TORBA at 09:56:58 M6.3 No Tsunami warning issued for this event.
2014/06/19	WNW Sola, TORBA at 10:17:58 M6.4 No Tsunami warning issued for this event.
2014/07/08	E Efate at 12:56:00 M6.0 This earthquake is well felt in Efate Island, No Tsunami warning issued for this event.

The occurrence of an earthquake in the Vanuatu with a magnitude greater than M5 warrants the issue of earthquake bulletins which are distributed along the archipelago from north to south. The graph below shows that the frequency of earthquake bulletins is particularly high in the TAFEA province area.



2.2 Issue Volcano Alert Bulletins for tourism industry and local communities as well as monthly and annual volcano bulletins for scientific and local communities

There were two types of information issued about volcanic activity in 2014:

- Type 1: Volcano Information Bulletin (which contains the first information about the abnormal activity of the volcano)
- Type 2: Volcano Alert Bulletin (which contains information about the abnormal activity of the volcano and the fluctuation of the Alert Levels).

These two types of information were then classified into two categories:

- Internal information (which is strictly scientific and confidential for Geo-science group only)

- External information (for the general public)

Ambae volcano information issued:

- Type 1: Volcano Information Bulletin N°1, issued on **2nd September 2014**.
- Type 1: Volcano Information Bulletin N°2, issued on **1st October 2014**.

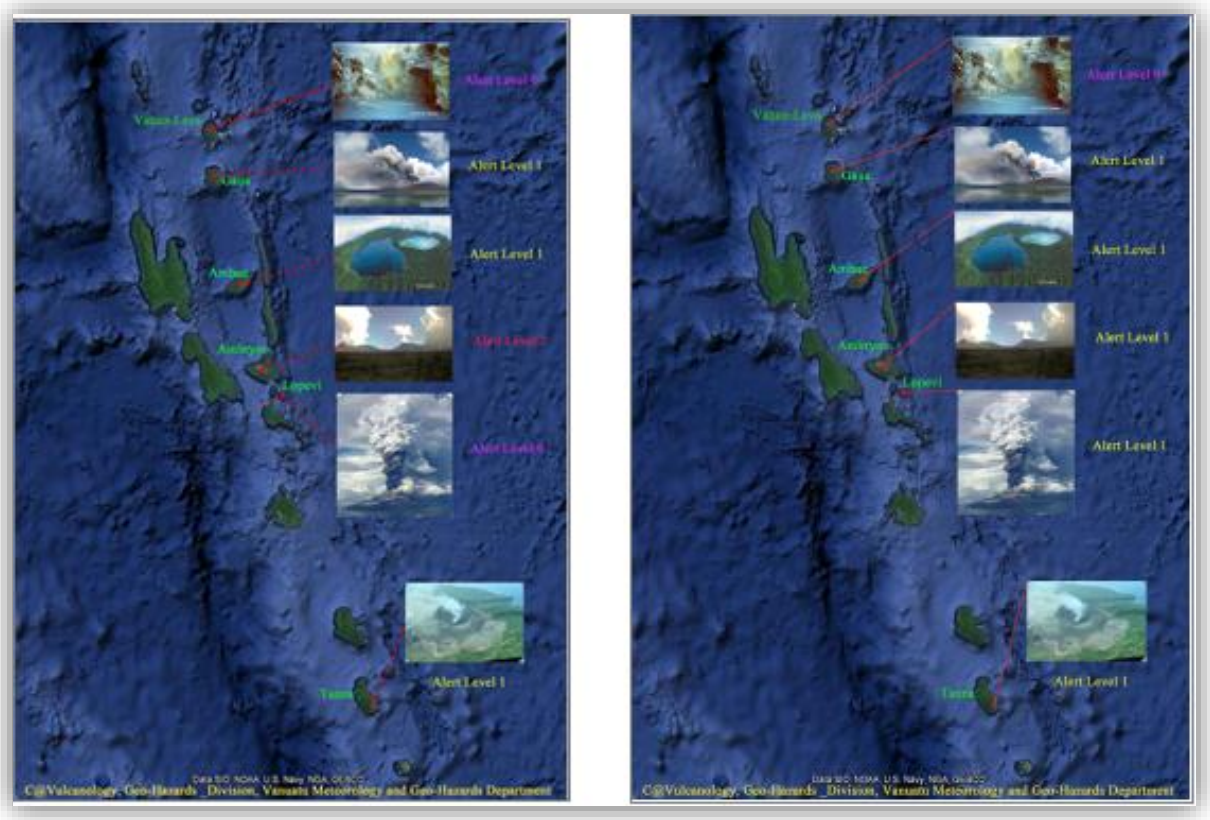
Ambrym volcano information issued:

- Type 1: Volcano Information Bulletin N°1, issued on **2nd September 2014**.
- Type 2: Volcano Alert Bulletin N°1, issued on **11st September 2014**.
- Type 2: Volcano Alert Bulletin N°2, issued on **1st October 2014**.
- Type 2: Volcano Alert Bulletin N°3, issued on **10th November 2014.**
- Type 2: Volcano Alert Bulletin N°4, issued on **8th December 2014.**

Lopevi volcano information issued:

- Type 2: Volcano Alert Bulletin N°1, issued on **15th December 2014**

The maps below summarise the Volcanic Alert Level on each volcano of the Vanuatu archipelago by the end of the first semester (left) and at the end of 2014 (right).



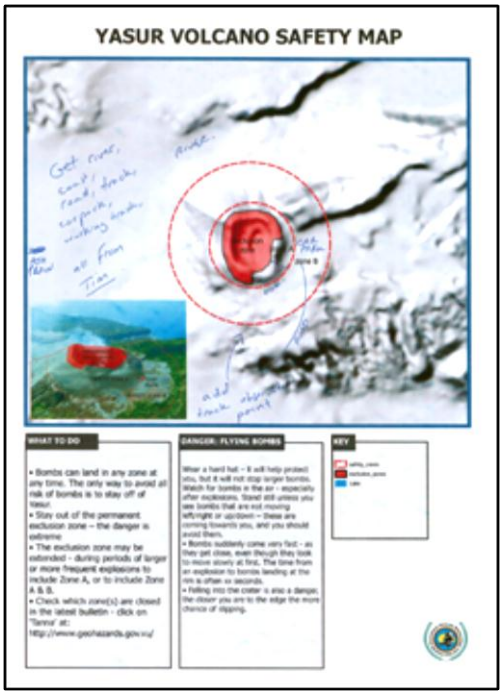
2.3 Review and develop scientific education and awareness materials for specific audiences

Specific awareness materials were developed in August 2014 with the assistance of Ben and Eleri, internship and research students from the University of Leicester (United Kingdom) who spent three weeks with the Geo-hazards Division for three weeks in July. The educational materials were developed with English subtitles for the local community and used cartoon illustrations to demonstrate earthquake, volcanic and tsunami hazards. French and Bislama versions are yet to be made.

In line with "Public Outreach" component of the VMGD-GNS join project, development has been started for Tanna and Ambrym, in collaboration with GNS Sciences, to review the Volcanic Hazard Maps to ensure that their proper messaging related to the maps for specific audiences. This is the first time that the Division has developed volcano access maps for the tourism industry. This work started in a form of a training session for the Volcano Data Analysts so that they can apply the skills to other volcanoes of Vanuatu.

The maps are to be more tourism oriented to help reduce risk of volcanic hazards for tourists while approaching the volcanoes.

Other stakeholders, the Red Cross and NDMO contributed during the consultation for the design of safety maps and with key messages for the general public and the tourism industry.



These maps are yet to be finalized and will be launched VMGD/NDMO products in 2015. This development would not be possible without the help of Graham Leonard from GNS Sciences, New Zealand, the Natural Hazards scientist and the Volcanic Geologist.

2.4 Participation in education and outreach missions to schools and during global events such as WMO/WW Day, Science Week and Environment Week

The Geo-hazards Division participated in many education and outreach missions in 2014. These include:

Education and awareness
The Geo-hazards Division's officers all participated in the 2014 Information, Communication and Telecommunications Day (ICT Day). Officers took part in the float parade which went from Moorings to the Sea Front Stage, where there were many associated activities taking place.

The role of ICT in volcano monitoring, earthquake detection and tsunami early warning systems was highlighted throughout the day. There were also other opportunities for education and awareness projects during the WMO and World Water day activities held at VMGD office compound on March 25th 2014. Further, there was an outreach mission to villages and schools on Aneityum and Tanna from the 21st to 30th June 2014. This outreach mission was conducted by the Senior Seismology Technician, the Acting Data Processor/Analyst and the Volcanology Technician.

Career Talks
The Division also participated in career talks held at Ulei School and Montmartre School on March 24th 2014, and at the Salon des Métiers organized by the French Embassy at the Le Lagon conference room on April 28th and 29th 2014. As a part of International Science week which ran between the 20th and 24th September 2014, the Division came together on the afternoon of the 22nd to welcome students to the warning center and run them through training on earthquake detection. On Friday 24th September the Manager and adviser of the Division made up part of a jury judging students' creativity over the course of the week.

Emau Disaster Committee Initiation
The Acting PSO Seismology represented the Vanuatu Meteorology and Geo-hazards Department on a mission led by the National Disaster Management Office to Emau Island, off Northeast Efate, to advocate for the setting up of Emau Disaster Committee. It is hoped that if communities on Emau understand the natural processes occurring in their surroundings and the potential risks associated with these processes, they will value the importance of setting up a disaster committee that will oversee any natural disasters that may occur on the island in the future. The one day mission was on the 2nd August 2014. The mission was supported by representatives from NDMO, SHEFA Provincial Government and the Vanuatu Meteorology and Geo-hazards Department. The setting up of Community Disaster Committees (CDCs) around Vanuatu is a priority for the NDMO.

V- Geo-Hazards Management and Operating procedure

V-1-Formalise the Emergency Response Manual Operation Procedures in case of volcanic eruption, earthquake and tsunami

1.1 Review the Volcano Alert Systems
Work has commenced on revising the volcano alert level of Vanuatu volcanoes. The revision was initiated by Dr. Gill Jolly in October 2012 and is still ongoing. Graham Leonard started the in-depth review when he visited in November 2015. The original Volcanic Alert System was developed in the year 2000 with four Alert Levels ranging from Alert 0 to Alert 4. The review added an extra level to the Alert System to better quantify the volcanic risk to relevant Alert Level. This Alert System should also be finalized in 2015 after a wider consultation with VMGD stakeholders.

1.2 Finalise Geo-hazards Operating Manual/Geo-hazards Directive
The Geo-Hazards network manual has been drafted and is in the process of review. A number of work instructions have been reviewed. The year 2014 marked significant development to the Geo-Hazards monitoring system with more discoveries of the strength and weaknesses of the operation. That information is captured in this document with expectation of further improvement and the Division continues to improve its monitoring network and services.

Work instructions for Data Analyst Volcano Seismology

The Data Analyst Volcano-Seismology is now executing her daily, weekly and monthly tasks according to the newly established work instructions for near-real time data for Yasur, Ambrym and Ambae volcanoes.

There are now 3 main work instructions namely i) a daily routine ii) a weekly routine and iii) a monthly routine procedure. These routines will ensure good volcano-seismic data management and preliminary analysis of volcano seismicity around active volcanoes with near-real time data for Ambae, Ambrym and Yasur. These 3 work instructions were completed as part of a trial period which lasted 3-4 months.

As well as these 3 procedures, there are also two other reviewed sets of instructions; i) a biannual instruction set that provides for a mid-year report of volcano-seismicity in the Vanuatu and ii) an annual instruction set that provides for an annual seismicity report of the Vanuatu region.

It is hoped that in the near future other junior officers or new officers will undergo in-house training on both volcano-seismic data software analysis and on these procedures so that these procedures can be standardized. The ultimate goal is to centralize these tasks right across the board so that they are not unique only to Data Analysts. Hence, in the future these sets of instructions will become standard operating procedures (SOPs) for dealing with, handling and displaying volcano-seismic data.

Working instructions for Acting Data Processor/Analyst –Seismology

The Data Processor/Analyst Seismology is now executing her daily, weekly and monthly tasks by following newly established work instructions. There are now 3 main work instructions namely i) a daily routine ii) a weekly routine and iii) a monthly routine procedure. These routines ensure good seismic data management and preliminary analysis of seismicity of the Vanuatu region and nearby regions that may pose a threat to Vanuatu. These 3 work instructions were trialed for a period of 3-4 months. As well as these 3 procedures, there are two other sets of instructions; i) a biannual instruction set that provides for a mid-year report of seismicity in the Vanuatu region and ii) an annual instruction set that provides for an annual seismicity report of the Vanuatu region. As with the working instructions for the Data Analyst described above, it is hoped that with training and support these established work instructions will become standard operating procedures for those working with data.

V-2-Manage Geo-hazards resources, plans and reporting

2.1 Engage in VMGD business planning and annual budgeting for 2014/2015

The Manager Geo-hazards has been actively involved in the planning and budgeting for 2014/2015 through attendance at several meetings and a retreat organized by the VMGD Administration.

2.2 Assess staff through staff appraisal

A staff performance assessment exercise was completed between the end of August and early September 2014. It was carried out by the Manager with all Geo-hazards staff members.

2.3 Control Geo-hazards assets

A Geo-hazards assets inventory was prepared in May 2014 to be reviewed by the close of 2014.

VI- Project Management

VI-1-Contribute to the IRCCNH and MDRR Projects

The Geo-Hazards Division is implementing part of the IRCCNH and MDRR Projects. The division is actively represented in the planning meetings of both projects. Coordinated by the Geo-Hazards

technical adviser, Sylvain Todman, the IRCCNH project component 1.3 on Early Warning system is the fundamental funding source for the majority of new Geo-Hazards equipment purchased for the upgrade of the Geo-Hazards network to the real-time monitoring network, as well as the establishment of the Geo-Hazards laboratory, the purchase of spare electronic equipment, the purchase of materials for shed construction to house all Geo-Hazards stations and the deployment of the Geo-Hazards team to test the sites, test the data transmission system for the stations concerned, and install the monitoring station concerned on Ambrym, Tanna, Lopevi, Ambae and Gaua.

VI-2-Manage the ORSNET Project

The ORSNET project is fully managed by the Geo-Hazards Division for the whole network of partners. The funded capital was used to fund the seismic data sharing task team meeting that was held in Port Vila from May 26th to 28th 2014. This project also funded the launching of the ORSNET server in Noumea and the inter-connection of three countries to ORSNET (Fiji, Tonga and Samoa).

VI-3-Manage the VU-NC Cooperation Project

The Vanuatu-New Caledonia Cooperation Project was both funded and managed by the Division Manager. This project is funding the maintenance of the local seismic and volcano monitoring stations.

VI-4- Coordinate with GNS Sciences New Zealand in the VMGD-GNS Sciences joint project

2014 is the third year of implementation for the VMGD-GNS joint project; "Establishment of a modern volcanic monitoring system in Vanuatu to increase resilience to natural hazards", a 5 year project to be completed in December 2016. This project funded the improvement of the volcano monitoring systems, the volcano database and the new education and awareness tools and maps for the Vanuatu volcanoes.

VI-5-Contribute to new project development

Several meetings were called in 2014 to design new projects for the development of the VMGD. The Division management actively contributed, particularly in the field of early warning systems.

VII- Management of Geo-Hazards assets and resources

VII-1-Part good-will payment deed of release to be paid

A good-will payment deed of release was signed between the Vanuatu Government and the Acting PSO Seismology in April 2012. Part of that payment was paid to him on the 29th of April 2014. The good-will payment was issued following a plane crash on the West Coast of Santo in December 2008 while the Acting PSO Seismology was on official duty.

Because there was a 2 year delay in payment on behalf of the Government, the Acting PSO Seismology did not undertake any air travel to outer islands nor overseas trips in that time, presenting a significant obstacle in completing all of the division's work programs. The Acting PSO Seismology has now recommenced air travel to the outer island for official purposes with the expectation that the second part of the payment will be made in the near future.

VII-2-Geo-Hazards vehicle

The Geo-Hazards vehicle (Toyota Hilux G433) is no longer operational. The vehicle was acquired from funds left over after the Lombenben volcano eruption on Ambae in 2005-06. The vehicle broke down at Devil's point during a seismograph station maintenance mission. The division has been using this vehicle for the last 8 years. Alternative arrangements will need to be made for responding to crisis and for the maintenance of seismograph stations on Efate. G433 is now with Ascot Motors for valuation and possible trade-in.

VII-3-Geo-Hazards Laboratory
Geo-Hazards technicians spent the first part of 2014 setting up a Geo-Hazards Laboratory. The Laboratory is designed to better manage the tools and materials purchased under the recurrent budget and other projects to support the operations of the Geo-Hazards Division.

Achievements Comment

The achievements of the Geo-Hazards Division during the year 2014 were tremendous. Particular successes were the establishment of a standard laboratory for technical works and for equipment and tools storage as well as the purchase of all the electronic equipment and spare parts. Other successes include real-time monitoring of Lopevi volcano, improvement of the Vanuatu volcano monitoring and warning systems and more. All of these have been made possible only through the donor funding, particularly the MDRR and IRCCNH project funding from World Bank, the Vanuatu-New Caledonia cooperation funds, and the VMGD-GNS joint project funds. Similarly, these achievements would not be possible if the scientific team and technical team of Geo-Hazards Division were divided. The Geo-Hazards vehicle G433 was required to facilitate the transportation of goods, the maintenance of the field stations, and for mobilizing rapidly in response to volcanic and earthquake crisis as well as technical breakdowns on the Geo-Hazards real-time monitoring network for staffs on duty.

Challenges Comment

The main challenges the Division faced during 2014 were related to the ongoing temporary status of half of the Geo-Hazards staff, despite the approved structure of the Department and despite their devotion, motivation and technical expertise proving them qualified for their respective posts.

Another challenge was the separation of the technical team from the scientific team under the new staffing structure. This separation led to a complete disconnection in communications and operations, which in turn slowed down the teams work progress. Fortunately, the Director General advised on a return to the original line of reporting allowing the whole team to work cohesively. The other key challenge is the lack scientifically skilled staff members to assist with scientific projects and areas of work.

Finally, the VMGD recurrent budget allocation for Geo-Hazards is very limited and is only enough for the seismic stations on Efate. The volcano monitoring stations maintenance cannot be covered by the actual budget allocation of 90,000Vt per month. There will be serious concern when donor funds lapse with regards to ensuring that remote Vanuatu volcanic activity is well monitored and that seismic activity in Vanuatu is well covered in the whole archipelago in a timely manner for earthquakes, tsunami and volcanic eruptions early warning. It is therefore highly recommended that the temporary staff of Geo-Hazards be appointed to their respective posts, that the transfer of the reporting line for Geo-Hazards technicians be formally done as advised by the DG, that a dedicated vehicle for the warning center and emergency responses be made available for the Divisions concerned and that the budget allocation for Geo-Hazards be increased in the years to come.

Staffing

The following table provides information about staffing in the Geo-Hazards Division in 2014.

Staffing	Details
Numbers:	Total staff [10] – Permanent [5], Contract including a TA [5]
Performance Appraisals Conducted	Annual appraisal was not done in August 2014 for permanent and contract staffs, in October 2014 for the TA
Study Leave:	**Esline:** From 10 to 28 March and from 9 June to 4 July only in the mornings **Morris:** from 2 April to 5 May and from 9 June to 4 July
Secondment:	No secondment at this stage
Annual Administration Leave:	Total number of staff taking Administration Leave [10] **Esline Garaebiti:** From 2 to 31 January 2014, From 27 to 31 July 2014 And from 6 to 15 December 2014 **Morris Harrison:** From 5 February to 1st April 2014 and from 16 December to 31 December 2015 **David Nakedau**: From 2 to 31 January 2014 and from 13 September to 20 November 2014 **Sophie Turere:** From 17 February to 1st April 2014, on the 4th of April 2014, from 15 to 17 May 2014, and from 1 to 3 September and from 15 to 31 December 2014 **Sandrine Cevuard:** From 2 to 18 January 2014, on the 2nd of July 2014, and from 15 to 31 December 2015 **Janvion Cevuard:** From 1 to 10 January 2014, from 22 to 25 April 2014 2 July and 25 July, and from 16 to 31 December 2015 **Athanas Worwor:** From 2 to 27 Jan 2014, and from 16 to 31 December 2015 **Sylvain Todman:** 2 Jan 2014, and from 19 to 31 December 2014 **Juanita Laga:** 31 January and 21 March, from 23 June to 14 July and from 4 to 6 June 2014 **Guillaume Kasten:** 6 February and from 17 March to 11 April
Other Leave/Resignation/Retirement:	Sick and compassionate leave have been sought by a number of staffs during the year 2014.

6. Observations Division

Division Purpose and Key Outcomes

The Observation Division contributes to the Department's purpose by maintaining optimal observational Networks to meet the data and information needs of the VMGD Divisions and other national, regional, and international users and networks.

The Observation Division realizes its vision by deploying skilled and motivated staff, using modern and sound technology and techniques, to install, maintain and update observational networks that provide adequate coverage, real-time, accurate and high quality observation data for weather, climate and water. The Division also works closely with regional and international technical partners to meet VMGD's network data and information reporting obligations.

The key strategic outcomes for the Observations Division are as follows:

- Restore, expand and sustain observation data networks, stations, systems, sensors and equipment;
- Effectively maintain the quality of real-time observations from all observing networks of VMGD Divisions;
- Ensure that the VMGD headquarters and Divisions have consistent and reliable access to real time observation data; and;
- Increase the number of observation data for existing, new and additional networks, stations, systems, sensors and equipment

2014 Priority Activities and Results – Observations Division

Programs and Objectives required by the 2014 Business Plan are summarized in the table below with results and commentary provided.

Observations Division (Business Plan)			
Programs	**Objective (Targets)**	**Result ✓✘**	**Result Summary**
Provision of Weather & climate Monitoring	365 days & 24/7 recording and measurement of land and atmospheric conditions	✓	19040 Climate Observation Reports (all stations). 6064 Synoptic Reports (b/field) 8760 Aviation Reports (b/field)
Transfer of observers	Transfer of Observers from one weather station to another station	✓	All officers on transfer list of 2014 have been successfully transferred to their respected location where they will carry out their work. All allowances have been paid.
Routine Stations Visit	Visit and inspect Observation sites and staff performances.	✓	Manager Observations, Director, and Secretary visited all sites. A detailed inspections report can be accessed in the Management Shared folder. Recommendations are tailored into the BP of 2015/2016.
Relieve Observation staff	To assist while outer island observers take their annual leave.	✘	Observations did not carry out this activity due to Budget constraints.

Attachment with Fiji Met	A study tour for 2 staff to do training attachment @ Fiji Met Service to be completed as a capacity building initiative.	✓	Two weather observers Kalsuak Godden who works at Bauerfield weather office & David Tari who works at Saratamata, Ambae weather office attended a one week attachment with the Fiji Met. Report can be accessed in the observer share online folder
Overtime	Staff are to work on shift to cover the 24 operations in Vila and around the country.	✓	Overtime payment was and continues to be paid to all observers.
Prepare Annual Report	Monitor and evaluate the overall work	✓	After the visit of head of observation, he will put together an annual report for the observation section of 2014 Annual Report.
Trainings	Enhance knowledge and skills of staff	✓	Training and development Plan for all staff. This year's training; Two observers went on overseas training on China, two on attachment training on Fiji, and one is currently in Philippines for six month observers training.
Strengthen outstations Infra structure & Communications systems.	Improve Provincial weather Offices to be more responsive to Rural Users	✓	Interconnect done for Tanna/Ambae, other sites will be done 2015. The section is planning to upgrade all VMGD outer weather stations and equip them with computer, internet, and awareness materials to enable its staff to provide awareness to the general public at Provincial level.
Improve Upper Office	Clean and safe working environment	✓	New furniture's has already been paid for and is in line to replace old furniture at Bauerfield Met office. There will be maintenance work before installation of all new furniture.
Student training Attachment	Introduce Meteorological Science to students	✖	No student training attachment this year. 21 students to be attached in the whole country for 2015.
Raise skills and knowledge of	Improve skills and knowledge of staff. Design and implement SOPs and guidelines for station staff governing data collection,	✓	Operational manual produced.

Observation network staff	reporting and transmission roles and responsibilities.		
Dissemination of VMGD products to communities	Identify methods to disseminate	✖	The document is still under draft. Need to upgrade website.
Develop programs for digitise data at Bauer-field	Identify staff skills and knowledge and work with the Principal Training Officer to develop a training plan in preparation for digitisation processes in 2015	✓	Digitations program ready for implementation in 2015.

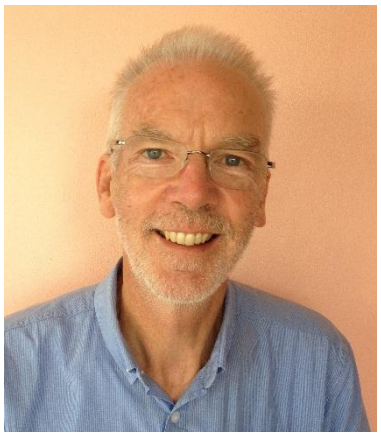
Station	Synoptic data per day	Aviation data per day	Total per day	Total per month	No. of Months	Annual total
Sola	8	7	15	450	12	5400
Saratamata	8	9	17	510	12	6120
Pekoa	8	14	22	660	12	7920
Lamap	8	7	15	450	12	5400
Bauerfeild	24	30	54	1620	12	19440
W.Grass	8	11	19	570	12	6840
Anatom	8	7	15	450	12	5400

Observational Data for each station in 2014

Achievements Comment

The Division has achieved quite a lot during 2014, with reporting Feedback from Met. Connect NZ showing that all stations have performed well above 90% through the year.

Red Cross Volunteer



The Observations Division had the privilege of hosting an AVID (Red Cross) volunteer during 2014 who is currently assisting the Division on a capacity building assignment including preparations for the transition to automatic weather stations. He is also assisting in ICT/Engineering Division. Chris has worked in the engineering/technical support and management of large astronomical observatories in Australia. He has enjoyed working with the department to prepare for the operation and management of the next generation of meteorological instrumentation. Chris is accompanied by his wife Mathea and they are enjoying living in Vanuatu.

Four new recruits

The Division had the privilege to get 4 new staff on a contract basis to fill the vacancies that existed within the division. The new staff underwent on-job training. However, 2 of the new staff left to find other employment and 1 left to pursue further studies. Vacant positions will be advertised soon.

Upper air Observations Operations

Once a day seven days a week the observations division release a weather balloon into the atmosphere to obtain upper air weather information. Attached under the hydrogen filled balloon is a small instrument called radiosonde. As the balloon ascends through the atmosphere the radiosonde records weather data at different levels and transmits it back to the ground station at Bauer field International airport.

The radiosonde consist of a radio transmitter, GPS, temperature, humidity, pressure and wind sensor.

Internet connection at White Grass

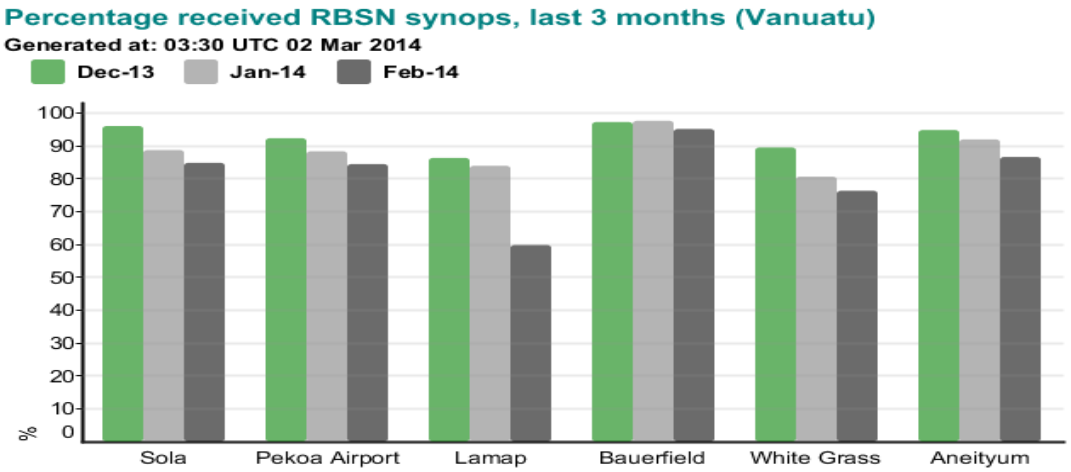
2014 saw the Division reach a great milestone; an internet connection at the Santo, White Grass and Ambae weather sites. Staff at each site can now send data via internet, which allows for faster transmission.

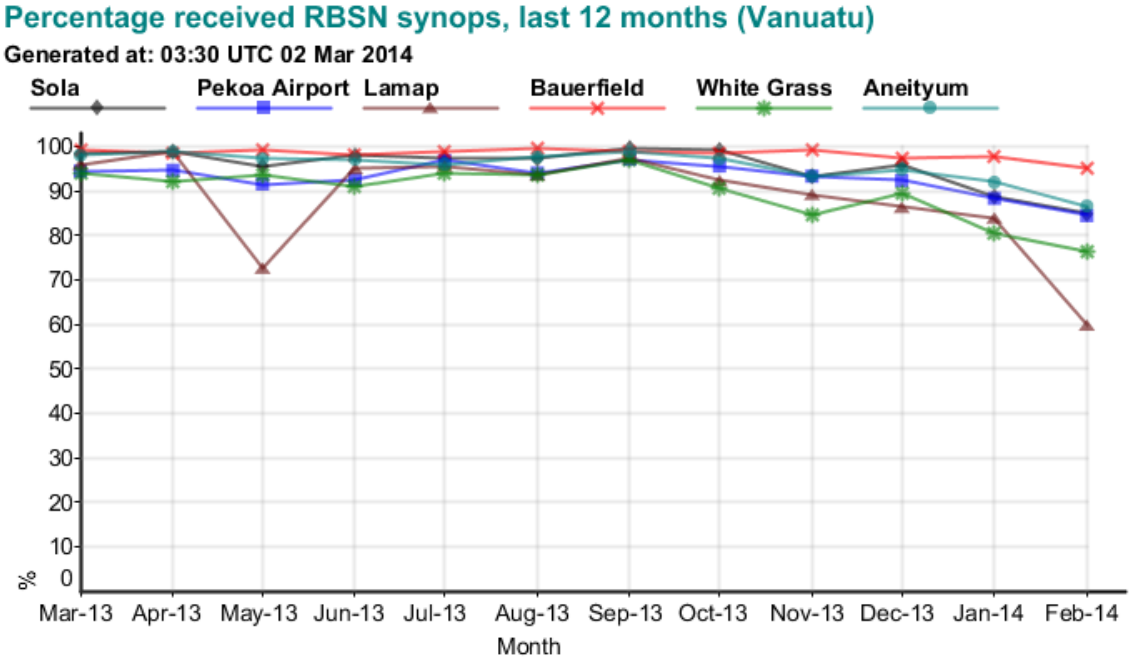
External Training

David Tari & Kalsuak Godden completed an attachment training with Fiji Meteorological Services. Their training was a benchmarking exercise to enhance their knowledge and skills and also to compare and learn from Fiji operational procedures and implement them back in the Division in Vanuatu. Attachment training has been a great success so far since the program began in 2011. The training is fully funded by the Department recurrent budget.

Hilton Henry, Senior Meteorological Officer for Saratmata (Ambae) attend a 3 week long training program in Disaster Risk Reduction (DRR) and Climate Change Adaption (CCA) in China. The training programs were designed to broaden their knowledge of provincial weather observers in DRR & CCA issues at provincial and community levels.

The Division is also fortunate to be assessed by Met Connect Pacific at the New Zealand Meteorological Services in Wellington, New Zealand. The feedback report has helped the management of the Division to introduce strategies for improvement. The feedback report shows that Vanuatu features one of the best Meteorological Observations Divisions in the network in the pacific islands. The following is the quarterly assessment report in 2014.

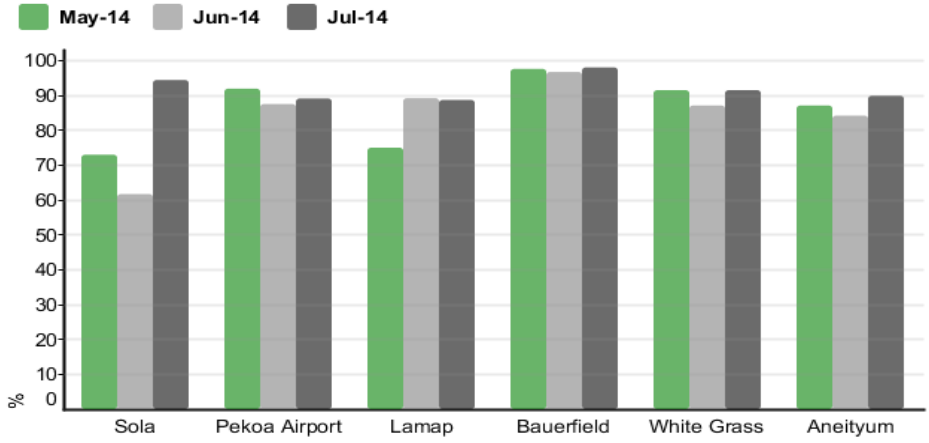




Please note that all sites performed under-target during February because of a communications breakdown.

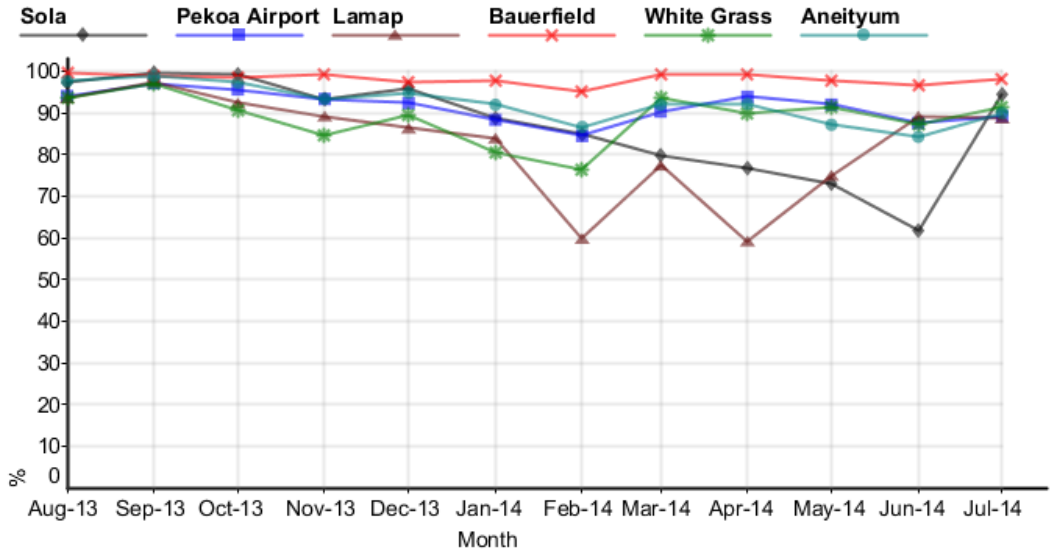
Percentage received RBSN synops, last 3 months (Vanuatu)

Generated at: 04:30 UTC 11 Aug 2014



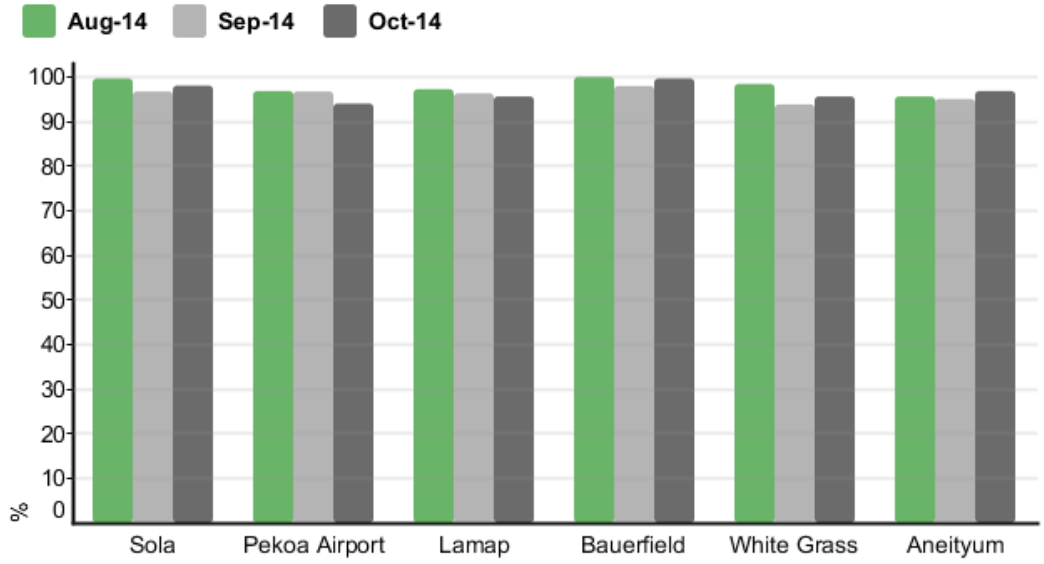
Percentage received RBSN synops, last 12 months (Vanuatu)

Generated at: 04:30 UTC 11 Aug 2014



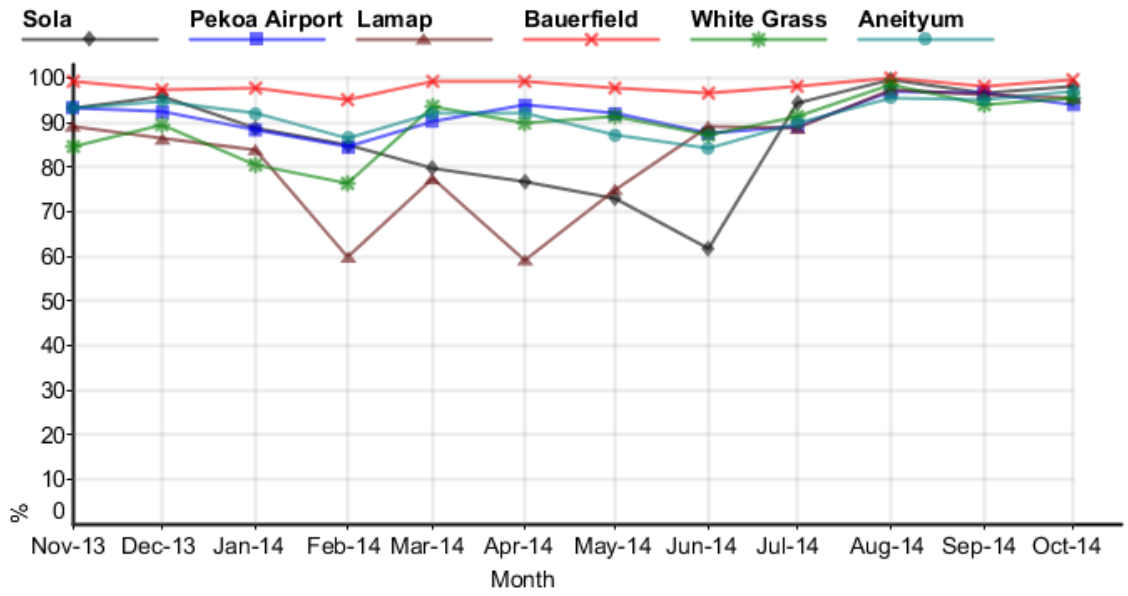
Percentage received RBSN synops, last 3 months (Vanuatu)

Generated at: 03:30 UTC 17 Nov 2014



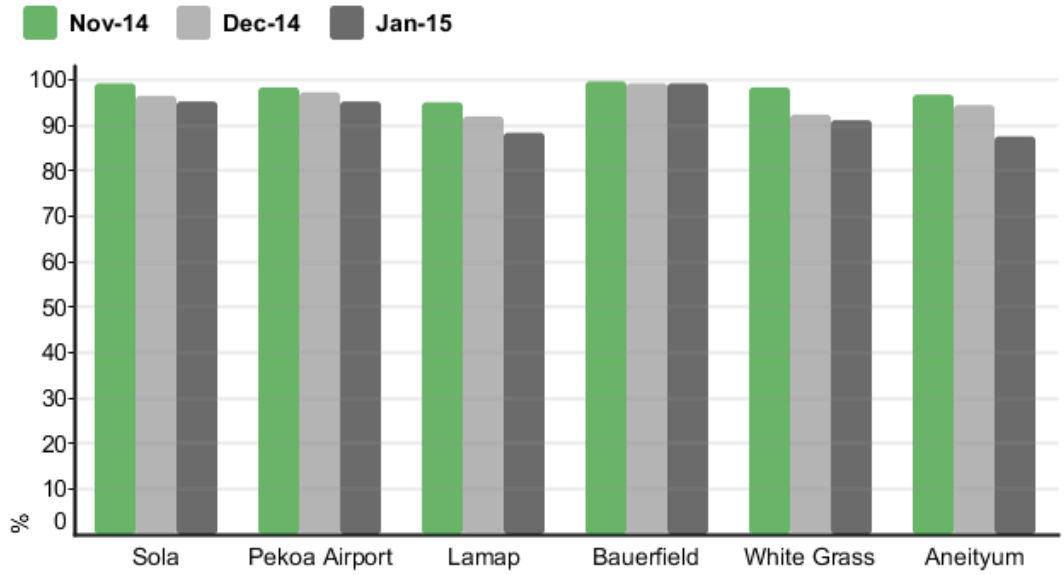
Percentage received RBSN synops, last 12 months (Vanuatu)

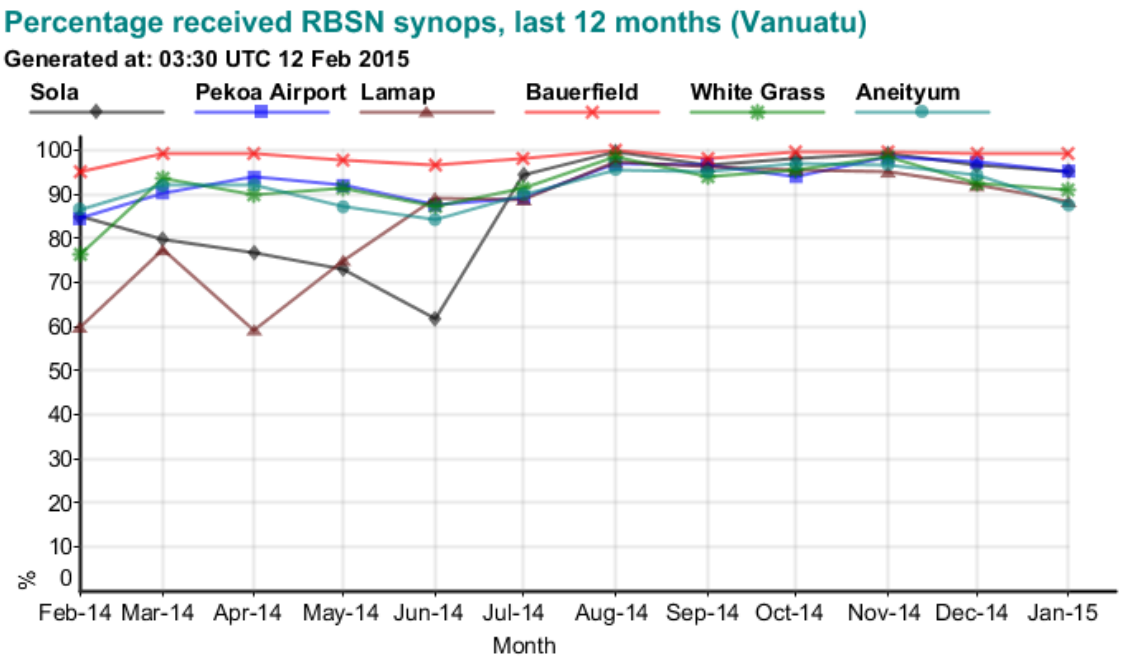
Generated at: 03:30 UTC 17 Nov 2014



Percentage received RBSN synops, last 3 months (Vanuatu)

Generated at: 03:30 UTC 12 Feb 2015





Challenges Comment

The Division also faced some great challenges in 2014. One of the main areas of challenge is human resources. Following a range of staff movements and retirements, a number of posts within the Division became vacant. As a result of this staff turnover, remaining staff were overworked, tired and stressed with the outcome being poor staff performance.
Replacement of the aging of instruments and equipment is a challenge as well. Instrument and equipment replacement is an expensive task. There is an intention to complete a number of project proposals in 2015 to overcome the cost challenge.

Remote Management of sites and staff is great challenge as well. The division extends form Sola right down to Aneityum. It's a challenge to remote mange the division from Vila. Staff performance is particularly challenging to manage and a new monitoring procedure will be introduced in 2015.

Finally, the basic maintenance of stations, office and staff quarters is challenging and in 2014 there were not enough funds available through the recurrent budget.

Staffing

The following tables provide information about staffing of the Observation Division in 2013.

Staffing	Details
Numbers:	Total staff [19] – Permanent [17], Contract [2)
Performance Appraisals Conducted	17 staff
Study Leave:	None, 1 officer completing 6 months study in Manila
Secondment:	None
Annual Administration Leave:	Total number of staff taking Administration Leave [6]
Other Leave/Resignation/Retirement:	Paul to retire in 2015

7. ICT and Engineering Division

Division Purpose and Key Outcomes

The ICT and Engineering Division contributes to the VMGD purpose by having qualified, skilled and motivated staff to enable VMGD adapt to technology changes and use up-to-date, modern and sound infrastructure and ICT to support all of VMGD's services.

The ICT and Engineering Division deploys qualified, skilled and motivated staff using up-to-date modern and sound ICT equipment with all necessary assets, for data processing and required interfaces for all Divisional requirements, including support for corporate and administrative functions.

The key strategic outcomes for the ICT and Engineering Division are as follows:

- VMGD's e-communications and office productivity and operating systems are up-to-date and maintained.
- Observation data networks, stations, systems, sensors and equipment are automated and providing VMGD Divisions with updated data and information for various products and services.
- Verification schemes for aviation weather forecasts and tropical cyclone products services and warnings are established and automated where possible.
- Automated and centralised points for in-coming weather, climate, water, volcano, seismic and other related environment and geo-hazards observation data and information are developed.
- Automated access to and use of Vanuatu real-time observations data and information by each VMGD Division.
- Databases of climate, volcano, seismic/earthquake data and information and other related databases, including historical tropical cyclone data, forecasting systems, platforms and applications, are updated and maintained.
- A VMGD documentation management system is developed and established.
- An on-line request system for VMGD Divisional information, forecasts, services and warnings is established and maintained effectively with Divisions having access to incoming requests and to respond accordingly.
- VMGD website is routinely updated and improved.
- VMGD communication network throughout the country is improved.
- Automated delivery of VMGD's weather, climate, flood, volcano, seismic/earthquake and related environment and geohazards information, forecasts, services and warnings.
- Electronic infrastructure is supported and expanded accordingly.
- Automated redundancy/back-up systems are active and in place for all VMGD Divisions.

2014 Priority Activities and Results – IT and Engineering Division

Programs and Objectives required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

ICT and Engineering Division (Business Plan)			
Programs	**Objective (Targets)**	**Result** ✓✘	**Result Summary**
Support Systems	Robust ICT and Administrative support systems	✓	Target for 1% comms outages reached
Routine Stations Maintenance	Maintenance and support to the Observations network to meet WMO/ICAO requirements	✓	Routine maintenance checks trips are made to stations. Included also on 2015 BP
Division Workshop	To develop and complete divisions' operational procedures	✓	Main division SOPs are completed, while policies works to be included in 2015
Communications and Monitoring Systems upgrade	Communications and Monitoring Systems upgrade	✓✘	Some stations covered but for most stations, surveys were done for LOS clearance. This is included in the 2015 BP
Redundancy systems in place	Redundancy systems in place	✓✘	Partially done. Respective NAS being purchased and yet to be expanded on
Mail Server Migration	Mail server migration	✘	Included in 2015 BP. Awaiting application licensing
Upper Air Weather Observations	Restore Upper Air Weather Observations and Monitoring	✓	Operations Restored
Instruments and Equipment Management System	Establish an Instrument and Equipment management system	✓	Developed and populating database.
Engineering work environment	To upgrade instruments and tools and environment	✘	A slow process and to be done at stages. Included in 2015 BP.
Automatic Weather Stations	Pilot Automated Weather Stations installed	✘	Proposals in draft stage and be implemented in 2015.
Website & Intranet	Accessible Information dissemination	✓✘	Partial works done on intranet and recruitment process for website developer for 2015
Upgrade Communication Systems	Reliable communication system	✓✘	Most voice comms are now via VOIP for PV but more upgrades for outstations included in 2015 BP.
Prepare Annual Report Draft	To Monitor and evaluate the overall work of the section	✓	Done. Annual commitment.

This year alone saw VMGD's connection to the Government's broadband. This is a milestone for VMGD as a leading Government Department in utilising that service to its fullest to safeguard the nation in providing a timely, quality and accurate daily weather services for the shipping, aviation and tourism industries.

Moreover the Division achieved near realtime monitoring of the atmosphere and surrounding seas. Monitoring includes climate services and realtime geohazards monitoring services for our volcanoes

thus adds onus to having establish VMGD's own domain separated from the Government domain with a direct WAN connection.

This adds extra responsibilities for the division in addition to providing daily support as summarised in this report.

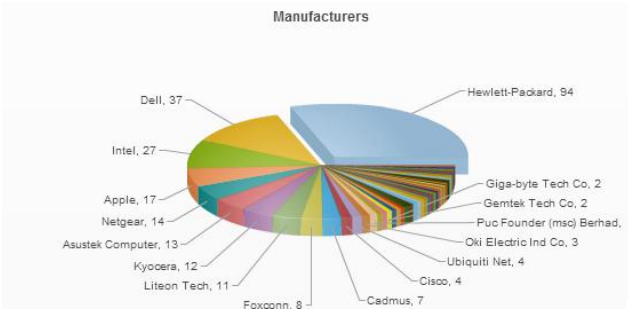
ICT & Engineering Support Systems Administration

The Division, through its Electronic Technicians, ICT Technicians and Electrical Technicians has provided support to over 200 devices inclusive of desktops, Servers, laptops, smart devices, video and network devices, electrical appliances, and telecommunications support to over 100+ staff from VMGD, NDMO, Energy Department, Project Officers and Ministry staff. The Division staff has worked tirelessly to minimize, as much as possible, any systems downtime.

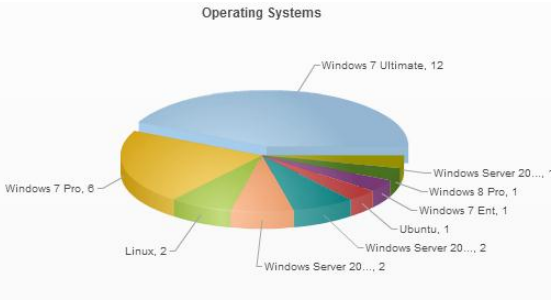
VMGD Domain

There are just over 350 devices currently connected on VMGDs domain, excluding personal devices such as laptops and smart phones, tablets and ipads. For instance, shown below are some devices that were currently online at the time of this reporting

VMGD DomainEnvironment Charts



Device manufacturers on VMGD domain



Desktops OS on VMGD domain

For a smooth operation of a domain moreover a committed team, operational procedures were adapted within the division which enabled the staff to keep weekly logs of tasks and monthly reporting of works which were submitted to the Division Manager for follow-ups.

ICT Support Logs

Electrical Logs

Instruments logs

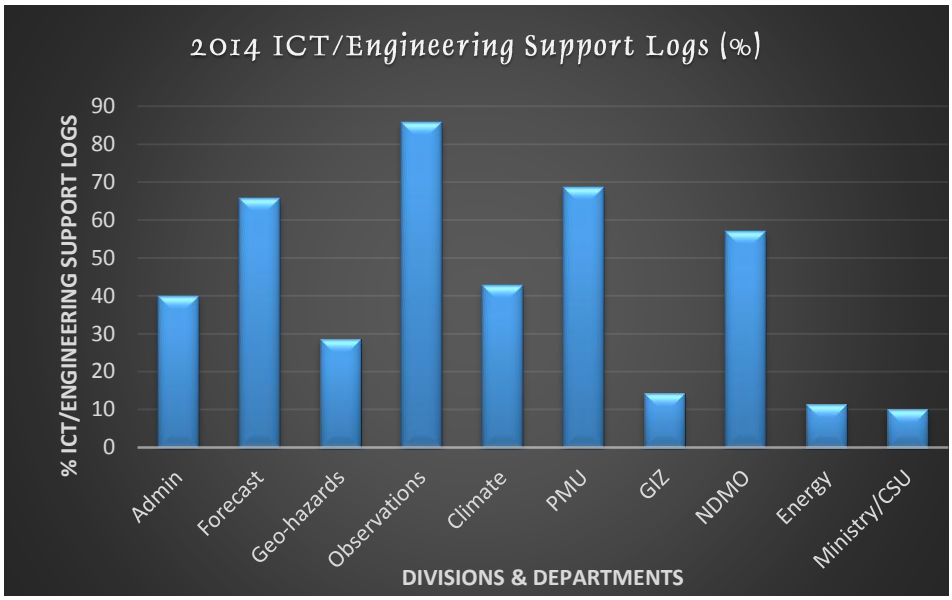
Electronics logs

Systems Administration Support

The ICT/Engineering Division was overwhelmed with the ever growing expansion of VMGD staff members and the need to support all departments under the ministry who reside in the VMGD premises.

Foremost among challenges is the daily ICT support that the division has to keep up with, despite having a ratio of 1:20 as the number of technicians to number of queries per day. This brings about the suggestion of having an online helpdesk ticketing system for the division which assisted a lot logging jobs.

Main support per divisions and department are summarized below:



In addition to daily systems administration and respective equipment and instruments maintenance within the division, the above graph illustrates the percentage (%) of ICT and Engineering Support Logs given for each of the divisions and departments throughout 2014. Support includes equipment maintenance, upper air operations, desktops support, telecommunications including voice-over-ip and HF communications support, electrical support, daily network support, wireless access, internet access, printing support and applications support.

Nearly 90% support logs were related to the Observations division, which has stations scattered throughout the province. Moreover it also oversees operations of the upper air station which consumes technicians' time for its daily operations. Finally, there were major works done on communications and the installation of the energy saving led lights at Bauerfield.

69% of the support logs were for the PMU Division. As the PMU contracts staff moreover the influx of consultants attached in the division throughout the year, support jobs increase. Support ranges from account creation, printing support, wireless access and online meeting access. Quite a large amount of time was spent on web hosting the NAB portal.

Forecasting Services support logs increased to 66% as the division operates daily round the clock. In addition to the daily ICT support, most support was towards the Synergie System and the GTS communications system. Regional Tropical Cyclone Meeting was held in Port Vila thus support was given throughout the week long meeting.

NDMO operations was among the top three divisions/depts that the technicians daily supports. As with PMU, most support was centred around printing, wireless access and file servers access. Consultants on-board for various projects together with the hosting various meetings and conferences, meant that the assistance of technicians was required.

For all other divisions and departments, daily ICT support was provided. No major dramas were encountered.

Routine Stations' Maintenance

As stated in the Division's Station Maintenance Operations Procedure, each year before and/or after a cyclone season, a routine maintenance visit by a technician is needed at each of the VMGD's Weather Observations Stations in the different Provinces. In 2014, maintenance trips were conducted on some stations, those trips were dependent on available financial resources.

Port Vila Sea Level Tide Station

Mission: Repair of sensor frames and solar panel batteries maintenance

The technicians assisted the Australian Bureau of Meteorology (BoM) in arranging for the repair of the Port Vila Tidal Station sea level sensor frame at the main wharf in Port Vila. The repairs were done by Fletcher Company.

Due to the solar panels not having the correct amount of exposure to sunlight to charge the batteries to its full capacity, maintenance of station's solar panel batteries was also carried out.

Various findings were noted and recommendations were made to the Australian BoM to be followed up on in 2015.

Port Vila SPSLCMP GPS Station

Mission: Routine equipment cabinet maintenance works, replacement of faulty barometer and rectify sensor power source problem caused by a severe thunderstorm.

Routine station's equipment cabinet maintenance was carried out.

A severe thunderstorm caused outage of various sensors and power faults on the equipment cabinet. Surge filters and a faulty barometer sensor was ordered in. The problem was rectified and systems operations was back to normal.

Various recommendations were met, including equipment calibration.

Sola Synoptic Station, Vanua Lava. – April 2014

Mission: Routine equipment maintenance and LOS tests to Provincial HQ.

The Senior Technician was dispatched to perform routine station maintenance on all equipment and at the same time to perform LOS tests to Provincial HQ. These were successfully carried out.

Pekoa Station, Santo – April 2014

Mission: Routine equipment maintenance and LOS tests to Government Communications tower.

En route to Sola, the Senior Technician was dispatched to perform routine station maintenance and at the same time perform LOS tests to the Government Communications tower. This was carried out successfully with respective leading recommendations to followed-up on.

Whitegrass Synoptic Station – September 2014

Mission: Routine Maintenance and LOS tests along the Whitegrass runway for wind system upgrade. This included Wind System repair and station's internet connection via Telsat. Electrical wiring for station's connection to a separate Unelco meter was also included in the trip. As well as LOS tests to Control Tower.

Two technicians and an ICT technician were dispatched to carry out the respective mission. The outcome of the mission resulted in:

- an operational electrical meter and proper electrical wiring of the office,
- LOS tests report for an upcoming wireless communications upgrade,
- wind system cabling works to windmasts along runway,
- wind system repaired together with the display operational and
- station's internet connection via telsat was established.

Figure 1: Whitegrass Station Wind System, Internet and Power works

Radiosonde/Upper Air Station Restoration, Bauerfield.

Mission: to restore the upper air observation monitoring station and ensure relevant repairs and preventative maintenance works are carried out to the station's equipment.

Various works were carried out such as:

- The error on the Air Traffic Control PTB330 was reported and correct settings were entered to display QNH air pressure.
- Rectified electrical faults due to severe thunderstorms which damages electrical sensors.

- Installation of one Air Traffic PC Display of Runway 110 wind information. AVL provided two serial converters for checking and confirmation of correct function for wind data.
- Maintenance checks carried on Digicora regarding GPS signal reception fault.
- Reconnection of Balloon shed electricity power supply, after damage caused by suspected vandalism.
- Repair works of Digicora PSU, caused by suspected vandalism action in by passing the UPS and exposing the equipment to harmful unregulated voltages.
- Test flights were carried out on the upper air sounding system to detect intermittent faults.
- Bench testing of 6 repaired wind displays carried out by Mcvan Industries, Australia.
- Bench testing of 3 new wind sonic sensors supplied by Mcvan Industries, and
- Restoration of the Upper Air Sounding Operations.

These were successful.

Communications and Systems Monitoring Upgrade

Saratamata Station, Ambae – 10-16th April 2014

Mission: to ensure VMGD's domain was extended to Saratamata together with VOIP extension into the Observers Office.

Data and electrical cabling works as well as function tests were completed at the site to extend VMGD's domain and VOIP link from PWD's Office's cabinet to VMGD's Office. Electrical works to the existing generator house were also made.

Figure 2: Saratamata Communications Works

By mid-April, Saratamata Observers were connected to VMGD's domain. There is also an electrical power source fed by the iGov's generator with alternate solar power source throughout the evenings.

Bauerfield Station's Communications Upgrade

Mission: To ensure VMGD's domain was extended to Bauerfield Office.

All technicians are involved to carry out this smooth operation. After various LOS tests between Bauerfield Station and VMGD HQ being implemented throughout the year, it was decided that a relay site be used to extend the domain. After various consultations, agreement and paper trailing work between VMGD and relay site parties, the relay station was erected at CBC/FM90 Station in September 2014. Power source cabling now ensures the station is connected.

Figure 3: Bauerfield Observation Communications Works

VMGD's Data Centre, Port Vila

Mission: Data cabling tidying mission.

As the department grows, additional resources requirements put emphasis on the existing physical network in VMGD's datacenter thus the need for proper cabling labelling and tidying was required. The process took one weekend.

Figure 4: VMGD Data Centre data cabling works

Project Works

NARI EU ARD Project

Through VMGD's Climate Division and the Agriculture Department (ARD), the technicians are involved in the installations and fencing of three (3) rainfall data loggers in Vanuatu. 2 stations in Efate and 1 in Middle Bush area, Tanna Island.

Site 1: Malafau Village, 9-10th September 2014.

Mission: To Install and fence rainfall data logger.
Area covered: 10m^2 with 4m2 of fencing
Materials: 2 bags sand, 2 bags coral, 1 bag cement, 9 iron posts, 15m fencing wire, 1 iron gate and other tools + accessories.

Community involved in clearing the bushes. Installation and fencing foundations works completed.

***Photo*: Rainfall data-logger installation and fencing works at Malafau Village, Efate.**

Site 2: Siviri Village, 11th & 13th September 2014.

Mission: To Install and fence rainfall data logger gauge.
Area covered: 10m^2 with 4m^2 of fencing
Materials: 2 bags sand, 2 bags coral, 1 bag cement, 9 iron posts, 15m fencing wire, 1 iron gate and other tools + accessories.

Community involved in clearing the site. Installation and fencing foundations works completed.

***Photo*: Rainfall data-logger installation and fencing works at Siviri Village, Efate.**

Site 3: Iwen Village, Middle Bush Tanna Siviri Village, 11th & 13th September 2014.

Mission: To fence existing rainfall datalogger gauge.
Area covered: 10m^2 with 4m^2 of fencing
Materials: 2 bags sand, 2 bags coral, 1 bag cement, 9 iron posts, 15m fencing wire, 1 iron gate and other tools + accessories.

Fencing foundations works completed with erected fence and gate.

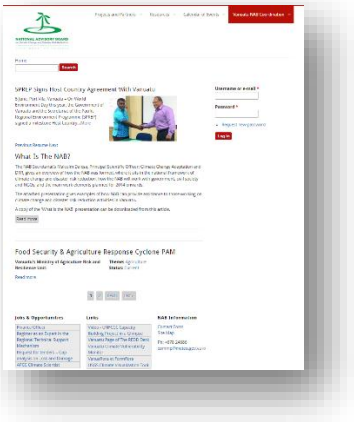
***Photo*: Rainfall data-logger installation and fencing works at Iwen Village, Middle Bush, Tanna.**

JICA Project "Equipment for Improvement for DRR"

Various works are carried out in between division's daily activities to assist in the implementation of the "*Equipment for Improvement for DRR*" Project's Engineers and Consultants. This year the emphasis was on extending VMGD domain into the relevant project sites. This was an expensive exercise.

Technicians are dispatched to Tanna, Malekula and Santo for communications LOS survey works. Respective reports were submitted for follow-ups to be ready for the project's implementation phase in mid-2015.

PMU's NAB Portal Website Hosting Service



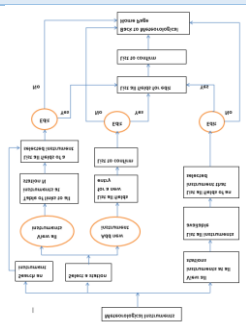
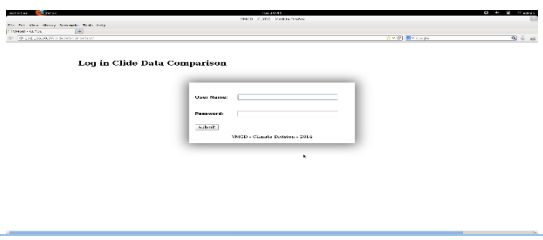
During the last half of 2014, hosting services for the NAB portal, www.nab.vu, was transferred into VMGD's data centre. Reconfiguration of hosting server together with respective rights were transferred to be hosted and managed by the division.

During the transition there were frequent power-cuts resulting in the loss of some vital settings within the host server and database. However, a recovery attempt was made and the portal was restored. Due to limited staff members to concentrate of that task, it took over 3 months for the portal to be fully recovered and restored. There is still some recovery work ongoing.

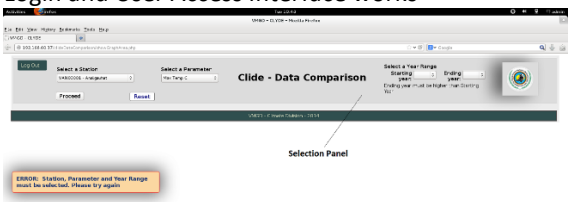
CliDE Data Comparison Utility

Under the AVID/ARC volunteer program, the Division was fortunate to have Thanh, a Database Developer who was on a 12 months assignment, attached with the division. His main role was to assist the division develop VMGD's Equipment/Instruments Maintenance Database System. This system was developed and currently populated by the technicians.

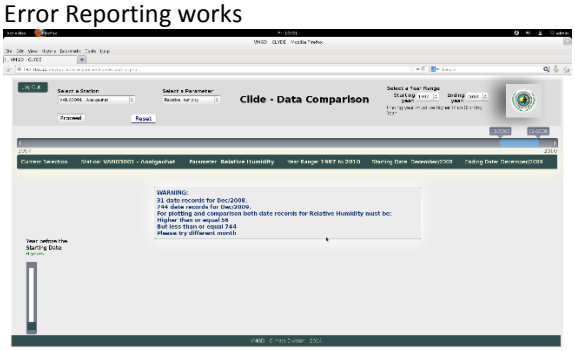
As the Equipment Database was created within 6 months, the other 6 months, from January 2014, was used to assist the Climate Division develop the CliDE Database data entry comparison application, namely “CliDE Data Comparison” application. During the first half of 2014, the CliDE Data Comparison Utility was further developed for assisting the Climate Division in comparing and averaging its existing CliDE database data by way of graphical presentation.

CliDE Data Comparison Utility Stage works	Implementation Stages
Consultation meetings – January 2014	Division staff consultation process on the objective of this system.
	Designing works – January/February 2014 Information gathering and data flow on existing CliDE data process.
	OS Specifications: • Linux Fedora Version 17 - Open source Operating system • Apache Version 2.2.2 - Open source Web Server • PostgreSQL Version 9.0.2 - Existing PostgresSQL Database on Clide System • PHP Version 5.4.17 - Open Source web scrip language • PHPlot Version 6.1.0 - Open Source plugin PHP library for plotting data • jquery-1.9.1.js - Open Source Javascrip library • jquery-ui-1.10.3.js - Open Source Javascript User Interface library • jquery-ui-1.10.3.custom.css - Open Source Cascade Style Sheet for jquery-ui-1.10.3.js • jQDateRangeSlider-min.js Version 5.5.0 - Open Sourse Date Range Slider Javascript – A dual licence GPL + MIT • iThing.css - Open Source Cascade Style Sheet for the jQDateRangeSlider.js
	Database Configuration works – table and data structures 

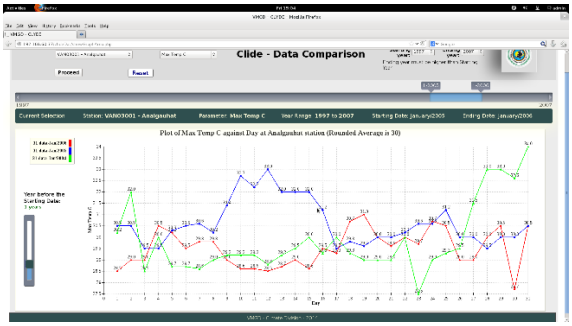
Login and User Access Interface works



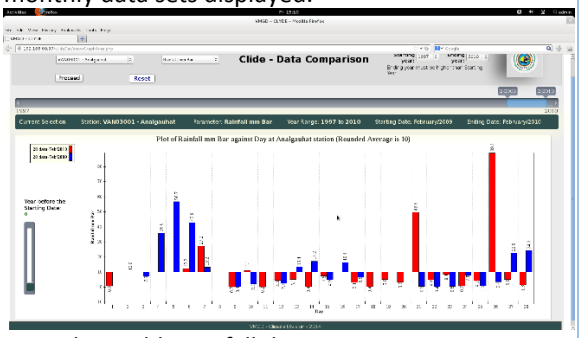
Error Reporting works



Out of Range error reporting configuration works

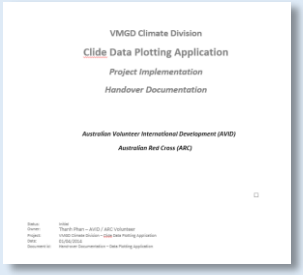


Typical plotting of Max Temp with retrieved monthly data sets displayed.



Typical monthly rainfall data comparison

User Manual Documentation works -June 2014



As stated in the TOR of such application development, a user manual for the system together with an administrative user guide was produced. All documents were thoroughly checked and tested accordingly.

The CliDE Data Comparison Plotting Utility is accessible via the intranet and utilized by Climate Division for CliDE Data Entry comparison purposes.

Events

ICT Day 2014 – "Broadband for sustainability"

Among other events that the division participated in, ICT Day 2014 was one of the highlights. Annually the VMGD's ICT/Engineering Division participates in the Government's ICT Day events organized by the OGCIO team. 2014 was the first time that VMGD as one of a major partners for the event. The theme for the event was "Broadband for sustainability".

This year's event was very successful with the participation of all VMGD staff. Preparations were divided between divisions for a float parade structure and displays for the 2 days event. All VMGD Staff participated in the float parade, including the then Director Napat who lead the float parade with other organizations throughout town. After the parade, a booth was manned by VMGD staff highlighting VMGD's use of ICT.

Figure 5: ICT Day VMGD Staff preparation and parade

Staff Christmas Party

The ICT/Engineering Division together with the Observations Division were the organizers of the 2014 Staff Christmas Party. The party was hosted at VMGD premises for every departments under the Ministry of Climate Change. It was a luncheon party, thus all activities are carried out during the daytime and end by late afternoon of the day.

It was a successful event where everyone participated one way or the other in food preparations and activities of the day. Various prizes were won for corresponding activities as well.

Figure 6: VMGD Staff 2014 Christmas Party Luncheon

Redundancy systems

Contingency planning is an essential process in any technical operations team. The IT/ICT Division therefore has an onus to complete thorough redundancy planning. During the 2nd quarter of 2014, the emphasis was on implementing automatic backup scripting on various servers.

NAS rack stations were deployed for that purpose and monthly off-site data backups were completed.

Achievements Comment

2014 saw the establishment of the Energy Department within VMGD premises thus another 30% increase in network devices. Ministry's CSU also puts strain on the network with additional staff connected. Although human resources and funds were limited within the ICT/Engineering Division, it was very promising to see that the Division had accomplished some outstanding achievements throughout 2014.

A major achievement was the upgrade of Saratamata Station's communications network systems, adding them to VMGD's domain. Another achievement is the continuous ICT and Engineering support the Team provided to all the divisions within VMGD, to the Energy Department, NDMO, CSU, Ministry, GIZ and housed projects. No major disruptions were experienced thus a 2% minimal communications downtime occurred throughout 2014.

Another achievement was the scheduled monthly backups for both VMGD and NDMO operational data. This is vital as part of VMGD systems contingency planning. More emphasis and upgrade will to be made on this in 2015 to improve its redundancy operations and operational drills, together with respective Operations, procedures and policies.

The smooth transition of NAB Portal hosting service to VMGD's data center was another highlight of 2014. The portal was previously hosted on another ISP but due to VMGD's broadband expansion, it was later transferred to VMGD.

The Division's involvement in providing the technical support towards the locally hosted Regional conferences/workshops, such as the WMO RV Tropical Cyclone Committee Meeting hosted parallel

with the Regional Seismic Data analysts training. NAB Portal trainings, was another achievement, which was praised by workshop participants and Divisions involved.

As this Division exists to provide professional technical support to all VMGD Divisions, successful technical operations within the ICT/Engineering Division itself are crucial to smoothly back up VMGD's operations. An achievement within the Division was the completion of Server monitoring operations, now online for data traffic monitoring, and server surveillance.

Finally, WiFi communications for Bauerfield Observation Station were backhauled to VMGD's domain. This brought communication disruptions at a 3% downtown rate.

More work will be prioritised in 2015 for upgrading all outstations' communication systems and inclusions of various equipment via funded projects notably the automatic weather stations (AWS) and tide stations throughout Vanuatu.

Challenges Comment

The major challenge this year was dealing with 200+ electronic devices monthly, with limited human resources and limited operational funds.

There were limited funds for the upgrade of various sensors, weather instruments, communication upgrades, real-time weather monitoring and physical off-site backup infrastructure. This was a challenge that needs to be addressed in 2015.

Another challenge is expanding VMGD's domain to all synoptic sites throughout Vanuatu. This is an expensive exercise meaning that only one station per year can be worked on due to high travelling costs involved.

VMGD's Data Centre is becoming crowded thus it is very important that the Division is able to invest in employing virtual servers and data centre's environment monitoring systems as soon as possible. The deterioration of the electronics technician's workshop was an eyesore for workshop staff. Its deterioration contributes to staff demoralization and can hinder staff productivity. This needs to be addressed in 2015.

Most challenges are finance related, and need to be addressed via projects funds. This is one of the priorities for 2015.

Staffing

The table below provides information about staffing within the ICT and Engineering Division in 2014.

Staffing Division	Details
Numbers:	6 (one on contract until permanent appointment be made in 2015)
Performance Appraisals Conducted	Done later 3rd quarter.
Study Leave:	Nil
Secondment:	Nil
Annual Administration Leave:	All staff with entitled admin leaves
Other Leave/Resignation/Retirement:	Nil

The division was very fortunate to recruit 2 staff this year to help out with the workload of daily supports. 1 ICT Officer and 1 Help Desk Technician. As the department grows with these changes and dependent on technology use the recruitment of 2 other technicians are recommended to relieve the workload over the next year.

Staff capacity development is essential for the division and also must be addressed.

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DEPARTMENT OF ENERGY

2014 Annual Report

Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

ENERGY THE PILLAR OF DEVELOPMENT

SECTION ONE - OVERVIEW

Review of 2014 by the Director

For the Department of Energy, 2014 is regarded as a very busy and also an exciting year. Major projects that have been under preparation during the last 12-24 months were now entering into their commencement stages. Several more new projects are being born. The increase of the recurrent budget has enabled more recruitment. In addition to this, four (4) project officers have been recruited to add to the work-force of the Department.

The Department has physically relocated from the Old George Pompidou Building to the Meteo Complex. Due to this relocation, new office equipment and furniture have been obtained that enhanced the service delivery of the Department.

The official launching of the National Energy Road Map by the Prime Minister in April 2014 has given momentous to the Department for the energy sector development in Vanuatu. The Department achieved a Department logo that went in line with this launching.

While these achievements were being made, it was normal that these developments now demanded a more committed effort from the Department to meet the funding requirements and the expectations of the National Energy Road Map.

About Department Of Energy [DoE]

The Department of Energy (DoE) was now a Department within the Ministry of Climate Change Adaptation, Meteorology, Geo-hazards, Energy, Environment and National Disaster Management Office.

In 2014 the DoE was responsible for identification, implementation, management and evaluation of energy projects, monitoring and facilitating energy activities as well as providing awareness and training activities.

1. Vision

The vision of the DoE was: To strengthen the institutional capability and to increase the accessibility to reliable, safe, affordable and efficient energy and resource usage.

2. Mission

The DoE had undertaken its activities to achieve its Vision by being: Resourced with staffing, provided with adequate funding, adequate support facilities and backed-up by policy frameworks and political will.

Specifically, this has been achieved through the excellence in the following areas:

- Increased professional staffing
- Official endorsement of the National Energy Road Map
- Approved Donor support funded projects
- New office space
- New office equipment and furniture

3. Principles

The guiding principles of the DoE are:

- Trustworthy : Sincere and honest in allocated responsibilities
- Respect: Appreciate each other's beliefs and status
- Young team : Energetic and have passion for work
- Team work : Consultation, Willingness, supportive to each other in achieving goals

4. Objectives

The DoE had aimed to meet the growing demands of the Government of Vanuatu and all Ni-Vanuatu for access to clean and affordable power with efficient energy usage and appliances. The objectives of this overall goal were:

- To enhance service delivery of the department
- To increase access to electricity
- To achieve greater diversity of energy sources
- To improve energy efficiency and conservation
- To develop petroleum security policy

5. Areas of Responsibility

The DoE is the main Government arm for all matters relating to the energy sector. This includes but not limited to, energy policies, energy legislations, electrification, petroleum, energy efficiency & conservation, energy awareness and trainings.

6. Programs, Functions and Sectors Served

Generally, the DoE had two sections, (i) Administrative and; (ii) Planning & Implementation. There are five (5) main programs under these two sections, namely; Administration, Power Off-grid, Power On-grid, Energy Efficiency & Conservation and Petroleum. The Table below is showing the functions for these five (5) programs under the department.

Table: DoE Programs & Functions

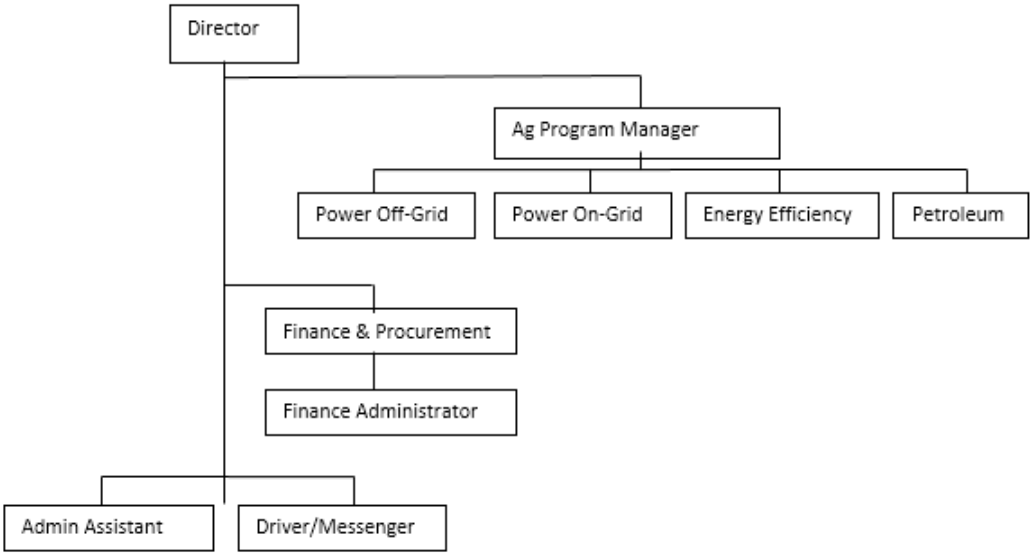
Programs					
Administration	**On-grid**	**Off-grid**	**Energy Efficiency & Conservation**	**Petroleum**	**Programs**
Office Administration	Grid extensions	Resources assessment	Energy audits	Data collection	**Functions**
Policies	Household connections	Electrification	Data collection	Supply & Price Monitoring	
Finance & Procurement	Legislation	Trainings	Legislation	Trainings	

Assets management	Trainings	Awareness	Trainings	Awareness	
Capacity training	Awareness		Awareness		
The overall energy sector development	Urban energy sector or concession areas	Rural energy sector (outside of concession areas)	Urban & Rural energy sector	Petroleum Sector	**Sectors**

7. Structure and Staff

When the Government took its policy decision to transfer the DoE to the new Ministry of Climate Change, the Mines & Mineral Resources Section went back to the Department of Water Resources. In this effect, the DoE structure in 2014 now looked like this.

Chart: Structure of DoE



Mines & Mineral Resources Section in this structure was removed back to Water Dept following Govt 100 Day Plan for 2013.

Table: Staff of DoE

Name	M/F	Position	Date of Entering PSC/Assignment	Employment Status
Jesse BENJAMIN	Male	Director	May 2006	Permanent
Leo MOLI	Male	Acting Program Manager	February 1982	Permanent
Emma MALA	Female	Finance Administrator	June 2000	Permanent
Antony GARAE	Male	Power On-grid	October 2013	Probation

Terry MAEL	Male	Petroleum	October 2013	Probation
Kathy KANAS	Female	Finance & Procurement	December 2013	Probation
Christopher SIMELUM	Male	Power Off-grid	January 2014	Probation
Joseph TEMAKON	Male	Energy Efficiency & Conservation	January 2014	Probation
Jerry LAPI	Male	PEEP II Local Coordinator also GPOBA IVA	January 2013 November 2014	Contract Contract
Alfred JOEL	Male	PALS Local Support Officer	June 2013 – Renewed again in June 2014	Contract
Nemo MATAI	Male	SREP Local Support Officer	June 2014	Contract
Elizabeth WAIWAI	Female	ESDP Project Implementation Assistant	August 2014	Contract

8. Funding Basis

For permanent and probation officers, their personnel emoluments were being met from the 2014 recurrent budget allocation. For contract officers, their remunerations were being met from donor funded project.

Goods and services of the Department were met from both Government recurrent budget allocation and project funding.

[Total Allocation by government] Personnel Emoluments was 9,460,329 Vatu

Operations (goods & services) was 3,369,456 Vatu

Total Government budget allocation was 12,829,785 Vatu

The ongoing energy projects including new ones are summarized in the Table below:

Table: Projects					
Item	**Project**	**GIP Code**	**Donor**	**Amount (Vatu)**	**Status**
1	Access Power Project	10A163	AusAid	63.6 million	Ongoing
2	Luganville Transaction Advisory Services	09P763	AusAid	124.2 million	Ongoing
3	Lighting Vanuatu	10E163	AusAid	38 million	Ongoing
4	Promoting Energy Efficiency in the Pacific II (PEEP II)	13C763	ADB	35 million	Ongoing
5	Scaling Up Renewable Energy Projects (SREP)	13M263	Climate Investment Fund (CIF) through the World Bank	25 million	New
6	Global Partnership on Output Based Aid (GPOBA)	14D363	World Bank	400 million	New

7	Energy sector Management Assistance Program (ESMAP)	14B963	SIDS fund through the World Bank	100 million	Ongoing
8	Talise Micro Hydro Project Phase II	09I263	Italian Fund through IUCN	20 million	Ongoing
9	Pacific Appliances & Labeling Standards (PALS)	13D163	SPC	8 million	Ongoing
10	East Ambae & Aniwa Island Desalination Plants	13L563	Japanese fund through the Pacific Islands Forum Secretariat (PEC Fund)	400 million	New
11	Solar PV Grid Connected Systems for Parliament Complex and Meteo Complex	14C963	UAE	500 million	New
12	Feasibility studies on Brenwe River on Malekula, Wambu & Sarakata Rivers on Santo	13K263	Clean Energy Financing Partnership Facility managed by ADB	205 million	New
13	Vanuatu Rural Electrification Project (VREP)	O9I263	New Zealand funding managed by World Bank	470 million	New
14	Biofuel Projects for Malampa, Penama & Torba	13A464	European Union GoV	191 million 218 million	Ongoing
				2,797.8 million	

9. Ministry and Policy Framework

Ministry, Minister and Director General

Having been transferred out from the portfolio of the Ministry of Lands & Natural Resources in March of 2013, it was now over one (1) that the DoE was with the newly established Ministry of Climate Change.

The Ministry of Climate Change was new, meaning a new Corporate Plan has to be drawn up and all departments under the new ministry have to adjust where necessary to support the new ministry. This new ministry had an experienced Director General, together with his valuable knowledge and the strong support from the Minister and his political team, the DoE was privileged to receive the support it needed from the ministry's team to achieve what can be achieved in the DoE's Business Plan.

Policy Frameworks - National, Regional and International

The Government policies that guided the work of the Department in the period January to December 2014 were:

- National Energy Road Map 2013
- Priorities & Action Agenda 2006 – 2015, Chapter 9.4
- National Energy Policy of 2007
- Rural Electrification Policy of 2003

About this Report

This report outlines major developments and initiatives carried out by the DoE between January to December 2014.

3. Reporting Requirements

Business Planning is a requirement from the Public Service Commission for all institutions to provide on an annual basis.

4. Reporting Processes

This document comprises of a collection of reports put together by the Program Manager and different Program Officers within the DoE and compiled by the Director. This report is against the 2014 Business Plan as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

SECTION TWO - PERFORMANCE 2014

Department Performance Overview

Department Performance	
Key Area	**Key Results and Highlights**
Institutional	- Relocation to new office space at Meteo Complex - Purchase new office equipment (computers & photocopier) and furniture (desks and chairs) - Design of department logo
Policy	- Launching of the National Energy Road Map (NERM) in April 2014
Programs/Functions	Administration - Recruitment of two (2) officers for two senior positions within the Department - Recruitment of three (3) project officers Energy Efficiency & Conservation - Arrival of 24,000 efficient lightings - Weekly energy news in Daily Post Newspaper Off-grid Electrification - Securing 470 million vatu funding for the Vanuatu Rural Electrification Project (VREP) On-grid Electrification - The month of September 2014 was the effective date for the implementation of the Global Partners on Output Based Aid (GPOBA) funded Program - Commissioning of Talise Micro Hydro 1st Stage - Feasibility studies of 3 rivers for hydro development and grid extensions - Completed the Scaling-Up Renewal Energy Project (SREP) investment plan
Outreach	- Public awareness on energy efficiency conducted at 3 secondary schools around Luganville, 1 primary school, Youth Challenge, Hog Harbour secondary school and Port Olry secondary school

	- Several public workshops conducted on energy projects around the country
Infrastructure	- Talise Micro Hydro 1st Stage - Desalination plants for East Ambae & Aniwa Island
People	- Consultants and Technical Assistance provided by donor partners on the new projects mentioned in the table of projects above - Consultations with the communities of East Ambae, Malekula, Santo, Vanualava & Tanna
International Meetings/Workshops	- Sub-Regional Project Design Training Workshop (ACSE), Suva, Fiji – 26 Oct-2 Nov'14 - Micro Hydro Policy Markers Workshop, Nadi, Fiji – 24-26 Sept'14 - Pacific Efficient Lighting Strategy (PELS) Inception, Nadi, Fiji – 22-23 Sept'14 - Climate Change & Energy Sustainability, Singapore – 11-22 Aug'14 - Asia Clean Energy, Manila, Philippines – 16-20 Jun'14 - EU-GIZ Adaptation to Climate Change & Sustainability Energy Meeting, Suva, Fiji – 29 May'14 - PALS Project Steering Committee Meeting & Lighting Workshop, Nadi, Fiji – 27-28 May'14 - ESMAP SAR-EAP Renewable Energy Training Program, Pattaya, Thailand – 23-25 Apr'14 - Dangerous Goods Training & Certification, Brisbane, Australia – 10-14 Mar'14
Finances	- DoE was allocated 12,829,785 Vatu for salaries and operations from Vanuatu Government and 2,796.8 million Vatu for projects from development partners

Performance by Program (10-12 pages maximum)

2014 Priority Activities and Results

Programs and Objectives required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Table: Department (Business Plan)

Programs	Objective (Targets)	Result ✓✘	Result Summary
Administration	To enhance service delivery of the department	✓ ✘	- Two permanent officers have been recruited and 2 project officers engaged - Purchase of new photocopier - Launch of the National Energy Road Map - 2013 annual report completed - 2015 budget prepared - 6th monthly report prepared - Logo designed for department - Relocation to new office space - Purchase of new computers and new furniture - Upgrade IT and network server - Procurement of TAs for on-grid & off-grid achieved - Developed 3 project proposals

			- Design, costing & seeking funds for new office building commenced but not fully accomplished - Structure of Department not reviewed - Job description of Petroleum Officer not revised - Procurement of TAs for petroleum progressed but not fully achieved
On-grid	To increase access to electricity	✓ ✗	- Implementation of the GPOBA program effectively started in September 2014 - Commissioning of Talise Micro Hydro 1st Stage - 2nd stage of Talise Micro Hydro commenced securing funding but implemented yet
Off-grid	To achieve greater diversity of energy sources	✓ ✗	- Feasibility studies of 3 rivers for hydro development - Wind data collection continuing - Implementation of East Ambae & Aniwa Desalination Project - Renewal Readiness Assessment (RRA) plan completed - 1st Phase of National Appropriate Mitigation Actions (NAMA) study completed - SREP investment plan completed - SREP investment plan approved by the SREP sub-committee in Washington DC with an envelope funding of 14 million USD - Contract awarded for implementation of UAE funded solar project - Production of brochures & posters achieved in Energy Efficiency activities - 10 schools talks achieved in Energy Efficiency activities - Monitoring & maintenance trip to Torba not achieved
Energy Efficiency & Conservation	To reduce cost of energy in urban areas	✓	- Conducted an energy walk-through audit for Ministry of Lands, Lands Department & Water Resources - Energy efficient appliances have been installed in more than 3 public institutions

			- Relevant laws have been viewed but not amended as a new legislation is being drafted - Produced energy efficient pamphlets and produce media outlet awareness on labelling standards - Conducted public awareness in Luganville and Hog Habour
Petroleum	To develop petroleum security policy	✓ ✘	- Continued collection and updating on fuel quality data - Continued collection of fuel pricings - ToR for petroleum taskforce drafted - Options for price control mechanism assessed through SPC workshop - Options for strengthening legislation & regulations assessed through SPC workshop - Assess infrastructure requirement not achieved

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Table: Department (Additional Activities)			
Programs	**Objective (Targets)**	**Result** ✓✘	**Result Summary**
Administration	To enhance service delivery of the department	✓	- COM approved Vanuatu accession to the Global Green Growth Institute (GGGI)
On-grid	To increase access to electricity	✓	- Feasibility studies of electrical grid extensions
Off-grid	To achieve greater diversity of energy sources	✓	- Secure 470 million vatu for the VREP program - VREP procurement plan and budget finalized
Both On-grid & Off-grid	- To increase access to electricity - To achieve greater diversity of energy sources	✓	- Delivery of Biofuel Project Materials to Malekula, Ambae & Vanualava
Energy Efficiency & Conservation	To reduce cost of energy in urban areas	✓	- Arrival of 24,000 efficient lights plus a Bulb Crusher - Completed the final draft of the Minimum Energy Performance Standards (MEPS) and Labelling Legislation
			-

Department (Business Plan)

To Enhance Service Delivery of the Department:

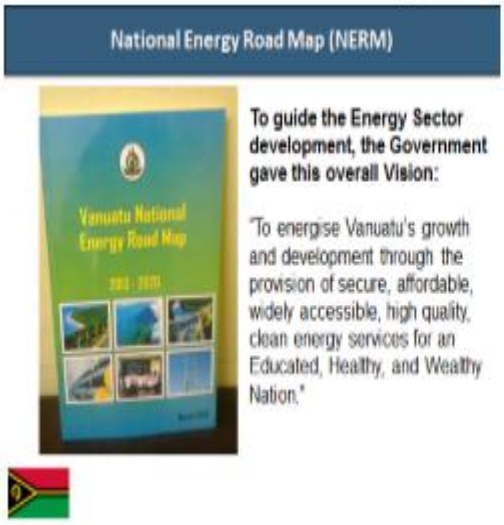
- Two permanent officers recruited in January 2014 – These positions were Power Off-grid and Energy Efficiency & Conservation.

- Two project officers recruited – These positions were Scaling-up Renewal Energy Program (SREP) Support Officer funded by the Climate Investment Fund through the World Bank and Energy Sector Development Program (ESDP) Project Implementation Assistant funded by the Small Islands Development States fund through the World Bank. In addition to these the Pacific Appliance & Labeling Standards (PALS) Support Officer funded by AusAid through SPC, has his contract renewed in June 2014 for another year.

- Purchased of a new photocopier:

Photocopier with capability as printer (A3 & A4 paper sizes), sort documents, staple documents and as a scanner

- Launch of the National Energy Road Map (NERM) in April 2014:

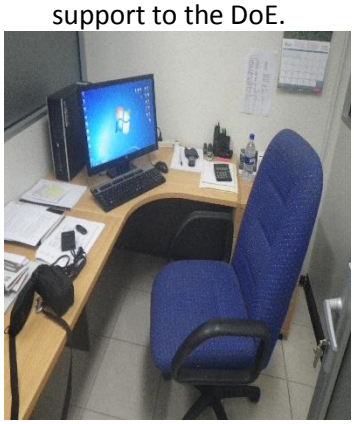


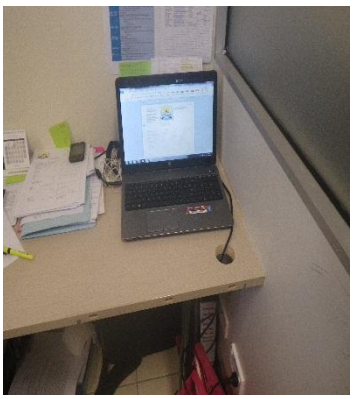
- 2013 annual report completed – This annual report was completed as required and submitted to the DG of the Ministry of Climate Change.
- 2015 budget prepared – The DoE 2015 budget was prepared in-line with the overall Ministry's budget ceiling and completed within the timeframe required.
- 6th monthly report prepared – This report was completed but included the period up to September 2014 and submitted to the DG of the Ministry of Climate Change.
- Logo designed for Department – Since the establishment of the Energy Unit, there was no logo designed for the office. When the Unit became a Department a new logo was designed. This logo was also used for the first time in the launching of the NERM.

- Relocation to a new office space in August 2014 – The Energy Office has been located in George Pompidoue Building since the mid 90s. In 2003 there was a strong earthquake that damaged the George Pompidou Building. All other departments (Health, Lands, Survey, Lands Registry) housed in George Pompidou have relocated but the Energy Office and the Environment Office remained in the damaged building. One part of the building was renovated in 2010 and the Environment Office moved into this leaving the Energy Office to remain in the condemned building until August 2014 when it relocated to the Meteo Complex.

Minister of Climate Change, Hon. James Bule (left) and Director of Department of Energy Mr. Jesse Benjamin about to cut ribbon to the new DoE Office in the VMGD Complex

- Purchase of new office computers and furniture – These purchases were part of donor funded support to the DoE.





Inside new Department of Energy Office

- Upgrade IT and network server – Having relocated into the Meteo Complex, this has provided the opportunity for the DoE to be connected to reliable IT and Network services. This has administratively improved the service delivery of the Department.
- Procurement of TAs for on-grid & off-grid achieved – There were several TAs that were funded by donors to assist the DoE in developing its SREP Investment Plan, RRA Assessment, NAMA study & PEEP II project.
- Developed 3 project proposals – In addition to the projects that the DoE is implementing and those that are in the pipeline, there were 3 more new project proposals that have been developed by the Department. These were:
- Development of Brenwe Hydro Power and Grid Extension to Lakatoro/Norsup;

- Prefeasibility Studies for Geothermal, for hydro on Iapilmai and Lowanau (Ikonoula) rivers, all on the island of Tanna and hydro study on Umej river on Aneityum;
- Improved Efficiency of the Sarakata Hydro Power Plant

These activities were not fully achieved:

- Design, costing & seeking funds for new office building commenced but not fully achieved.
- Structure of DoE not reviewed. This is being postponed to year 2015.
- Job description of Petroleum Officer not revised. This is to be done during the review of the DoE structure in 2015.
- Procurement of TAs for petroleum progressed but was not able to be completed in 2014.

<u>To Increase Access To Electricity:</u>

- Implementation of the Global Partners for Output Based Aid (GPOBA) program effectively started in September 2014 – This is a program to subsidize 80% of household connection costs in the 4 electricity concession areas. The program is for 4 years and it is expected that around 4,200 households will be connected to the electrical grids.

L-R: Peter Allen - GM of VUI, Jesse Benjamin - Director of DoE, Philippe Mehrenberger - GM of UNELCO, Jacques White - UNELCO Legal Counsel & Antony Garae – DoE On-grid Officer

- Commissioning of Talise Micro Hydro 1st Stage – This 1st stage development was funded by IUCN. All the civil works including the installation of the turbines have been successfully completed.

Hon. James Bule, Minister for Climate Change was about to open the door into the power house

Inside the Talise Power House

- 2nd stage of Talise Micro Hydro – DoE managed to secure some donor funding but not sufficient for full project implementation yet.

To Achieve Greater Diversity Of Energy Sources:

- Feasibility Studies of 3 Rivers for Hydro Development – The feasibility studies were undertaken on the rivers of Brenwe on Malekula, Wambu and Sarakata on Santo. These studies were funded by the Clean Energy Financing Partnership Facility through the ADB. The studies took about 8 months to be completed.

View of Brenwe River, Malekula

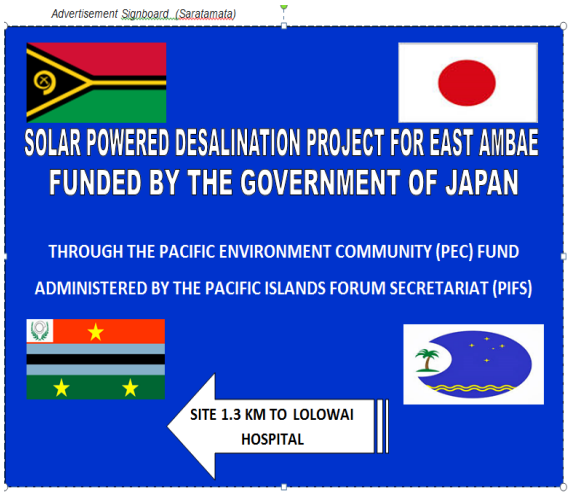
View of Wambu River, Santo

View of Sarakata River, Santo

- Wind data collection continuing – Wind data was being collected for Central Malekula, East Santo and North Pentecost. For Vanualava it was partly collected due to the wind monitoring tower blown down by cyclone. It was not possible to collect data for Tongoa due to technical faults with the wind tower there. The tower in Tanna fell down due to volcanic ashes and sulphur corroding the anchors.

- Implementation of East Ambae & Aniwa Desalination Project – Project funded by the Japanese Government through the Pacific Islands Forum Secretariat under a program known as "Pacific Environment Community Fund" (PEC). The project process commenced in October 2010 but the actual physical project implementation started in October 2014 and completed in December 2014.

Aniwa Community tasting of Desalination Water during the project dedication ceremony

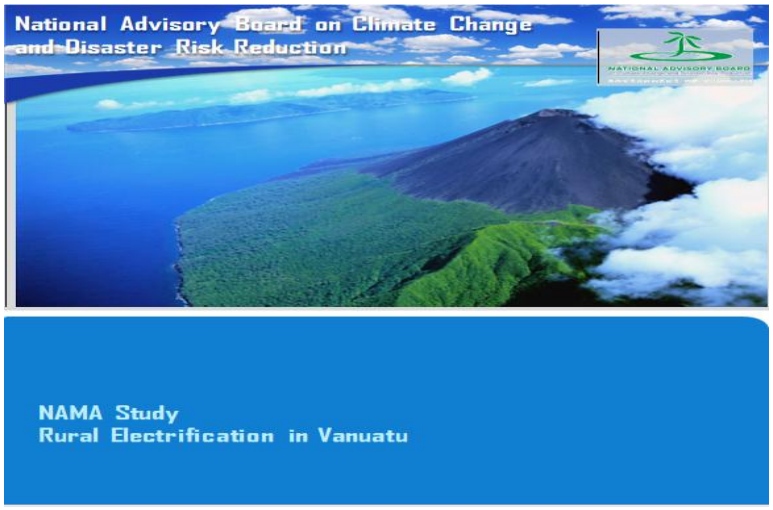


Sign Board for Desalination Project on east Ambae

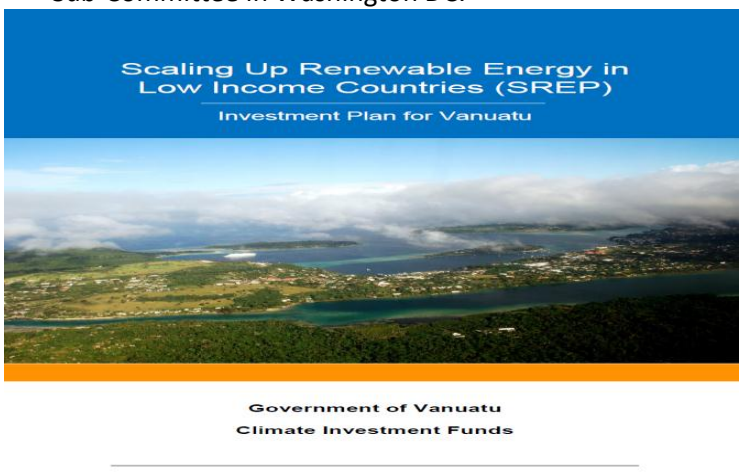
- Renewable Readiness Assessment (RRA) Plan completed – This RRA Plan has been developed and submitted to the International Renewable Energy Agency (IRENA). The purpose of this plan was to have a list of potential renewable energy projects that can be developed in reaching the goals and targets as set in the National Energy Road Map (NERM). This RRA Plan was funded by IRENA.

- 1st Phase of the National Appropriate Mitigation Actions (NAMA) Study completed – On 16th April 2014, the DoE in conjunction with UNDP hosted a ground breaking workshop on NAMA's project for Rural Electrification. The NAMA study on Renewable Energy in Vanuatu aims at showing ways to support the country in the implementation of the National Energy Road Map. The interventions identified in the NAMA study are as outlined below with an estimated cost of US$17 million:

- Installation of micro-grids areas with concentrated electricity demand
- Extension of grids to neighbouring communities
- Individual solutions for households



- Scaling up Renewable Energy Program (SREP) Investment Plan completed – Vanuatu was ear-marked to receive up to US$14 million from this program under the Climate Investment Fund (CIF). However, to access the fund, an Investment Plan (IP) has to be developed. Government has engaged a consultant to assist in drawing up this IP. This IP was completed around 3rd quarter of 2014, approved by the COM on 16 October 2014 and submitted to the SREP Board Sub-Committee in Washington DC.



- SREP Investment Plant approved by the SREP Board Sub-Committee – The Director of Energy and the Acting Director of Finance officially presented the SREP IP the SREP Board Sub-Committee in Washington DC in November 2014. It was a great achievement that the Vanuatu's SREP IP was officially endorsed by the Sub-Committee. This effective meant that Vanuatu is eligible to receive US$14 million in its renewable energy developments.

Department of Energy Director, Jesse Benjamin and Department of Finance Acting Director, August Letlet, posing with World Bank Team after presenting the SREP Investment Plan to the SREP Sub-Committee in Washington DC, USA – November 2014.

- Contract awarded for implementation of UAE funded solar project – The United Arab Emirates through their agency MASDAR has awarded the supply and construction of the project to Clay Engineering of Fiji. The project layout designs have already been developed.
- Production of brochures & posters achieved in Energy Efficiency activities – These activities have been undertaken under the Energy Efficiency activities.
- schools' talks achieved in Energy Efficiency activities – This activity have been undertaken under the Energy Efficiency activities.
- Monitoring & maintenance trip to Torba not achieved – This planned activity to the Torba PV sites was not being undertaken due to budget limitation.

<u>To Reduce Cost Of Energy In Urban Areas:</u>

- Conducted an energy walk-through audit for Ministry of Lands, Lands Department, Environment Department & Water Resources – The walk-through audit was conducted on 31st July 2014 following concerns raised by these agencies on the increasing electricity bills.
- Energy efficient appliances have been installed in more than 3 public
- Relevant laws have been viewed but not amended as a new legislation is being drafted – Relevant laws were viewed and numerous consultations have been made with the stakeholders. Following these consultations, a new legislation on Minimum Energy Performance Standards (MEPS) & Labelling has been drafted.
- Produced energy efficient pamphlets and produced media outlet awareness on labelling standards – Energy efficiency & labelling standard awareness have been conducted in schools and through the media.
- Conducted public awareness in Luganville and Hog Harbour – The awareness were conducted in Rohani Secondary School, Agriculture College, Sarakata Central School, Sarakata SDA School, Luganville Youth Drop In Centre, USP Luganville Branch and Hog Habour Secondary School. In all these places copies of the following documents were given out: National Energy Road Map,

Home Energy Guide for Vanuatu, Vampire Load Brochures, Jet Stove Brochures, Energy Smart Calculators and Renewable Energy Posters.

		
Sarakata Central School, Luganville	Rohani Secondary, Luganville	Agriculture College, Luganville

To Develop Petroleum Security Policy:

- Continued collection and updating on fuel quality data – This is an on-going activity that the DoE continued to undertake at appropriate times. In 2014 an issued arose on fuel quality when petrol fuel affected many two stroke and 4 stroke engines.
- Continued collection of fuel pricings – This is an on-going activity for the DoE. Fuel prices in Vanuatu and world oil prices have also been issued to all government agencies through the OGCIO.
- ToR for Petroleum Taskforce drafted – A ToR for the Petroleum Taskforce have been drafted but not developed further pending the re-structuring of the DoE.
- Options for price control mechanism assessed through SPC workshop – The SPC has organized a petroleum workshop for the Pacific Island Countries and Territories on 1-5 December 2014. This workshop discussed fuel pricing mechanism, fuel industry code of practice, regional fuel industry standards and alternative fuels. This workshop provided a good insight to the type of price mechanism that one country can apply.
- Options for strengthening legislation & regulation assessed through SPC workshop – It was noted in the workshop that relevant legislations needed to be in place to enable the governments of each country to effectively monitor the fuel industry code of practice and fuel prices.

DoE and URA participants at the SPC Petroleum Workshop, Tabua House, Nabua, Fiji

- Assess infrastructure requirement not achieved – It was noted that this activity will required outside expertise assistance thus it was not been undertaken.

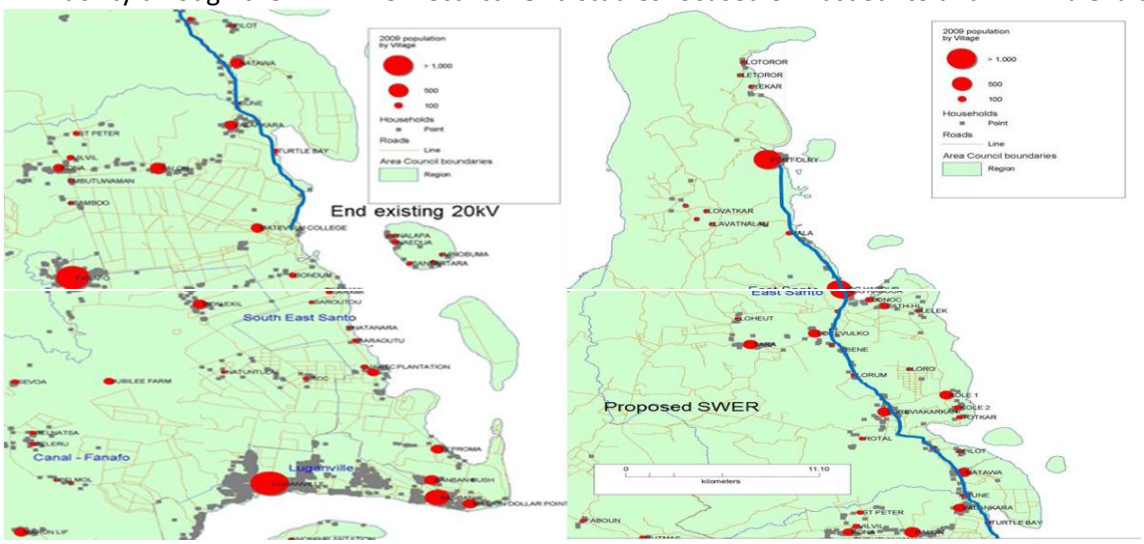
Department (Additional Activities Not in Business Plan)

<u>To Enhance Service Delivery Of The Department:</u>

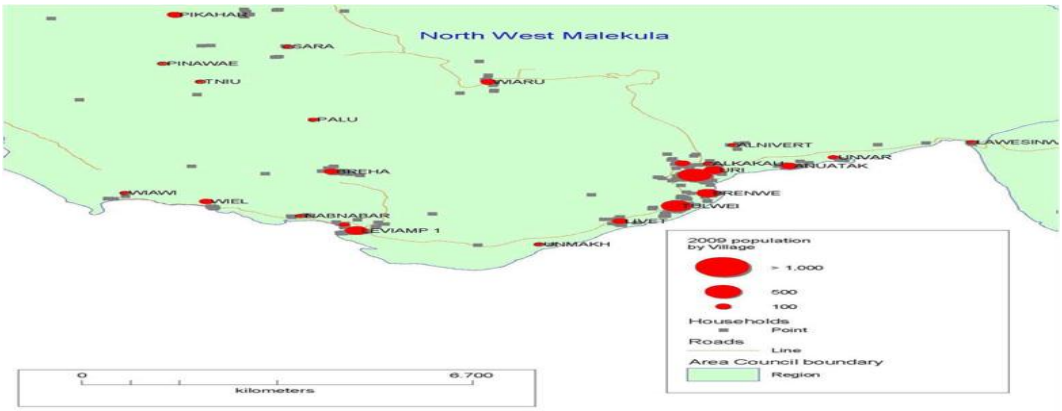
- COM approved Vanuatu accession to the Global Green Growth Institute (GGGI) – On 30 October of 2014, the Council of Ministers (COM) approved for Vanuatu to join this international body (GGGI) and to sign an agreement for cooperation with them. Accession of Vanuatu to the GGGI was effective on 7th December 2014. Vanuatu became the 21st country to join this international institute.
-

<u>To Increase Access To Electricity:</u>

- Feasibility Studies of Electrical Grid Extensions – These studies were undertaken together with the studies of the 3 rivers mentioned above, funded by the Clean Energy Financing Partnership Facility through the ADB. The Electrical Grid studies focused on East Santo and NW Malekula.



Grid Extension from Matevulu to Port Olry, Santo



Grid Extension from Norsup to Leviamp, Malekula

<u>To Achieve Greater Diversity Of Energy Sources:</u>

- Secure 470 million Vatu for the Vanuatu Rural Electrification Project (VREP) program – This fund came from New Zealand Aid and managed by the World Bank. This electrification program will

target about 17,500 rural off-grid households, 230 aid posts and 2,000 community halls. Under this program, the rural population will be given a choice of 5w – 30w plug and play solar systems and the project will subsidize the solar system retail cost by 50%, meaning the rural population will pay only 50% of the total system cost.

- VREP Procurement Plan and Budget Finalized – Following the World Bank's requirement, draft Procurement Plan and Budget of the project have been prepared.

<u>To Increase Access To Electricity/To Achieve Greater Diversity Of Energy Sources:</u>

- Delivery of Biofuel project materials to Malekula, Ambae & Vanualava – This EU-VanGov funded project commenced in mid 2008. However, due to various reasons, it was not completed within the 2 year timeframe of the project. The project implementation period was then extended to allow for the project to be fully completed. The project materials were ordered and delivered to Port Vila. These were not delivered to the project sites until in October 2014 when they were finally transported to all the specific sites.

<u>To Reduce Cost Of Energy In Urban Areas:</u>

- Arrival of 24,000 energy efficient lights plus a Bulb Crusher – Under the second phase of Promoting Energy Efficiency in the Pacific (PEEP II) program, funded by ADB, 24,000 energy efficient lights have been purchased. These energy efficient lights will be used to replace old inefficient lights within the Government buildings, domestic terminal at Bauerfield, households in Luganville and Vila, street lights in Port Vila and Luganville. A Bulb Crusher was also procured under this project to crush the old removed lights. This is essential so as to remove the mercury in the bulb.

Director General Jotham Napat (r), and Acting Director Leo Moli (l) with the energy efficiency bulbs. In the background is one of the 20ft steel containers with some of the lights.

Bulb crusher to remove old lights

Achievements Comment

As stated in Section One – Overview, this year 2014 was regarded as a very busy but also an exciting year. Major projects that have been under preparation during the last 12-24 months are now entering into their commencement stages. Several more new projects were being born. The increased of the recurrent budget has enabled more recruitment. While appreciating these achievements, there were challenges faced in accomplishing the objectives of the 2014 Business

Plan. Some planned activities were slow to kick start, some were partly achieved and some are yet to be achieved.

Regardless of the limitations and challenges, the cooperation and support provided to the Department were very valuable which have engineered this office to achieve some of the objectives of the planned 2014 activities. The Department expressed its highest appreciation to the Ministry of Climate Change with its Corporate Services Unit headed by the Director General and the Departments under this Ministry (MoCC), the Public Service Commission, together with all those Government Authorities, Development Partners and Key Energy Stakeholders who have valuably contributed in the achievements made in 2014.

Challenges Comment

Insufficient budget and the limited professional officers were among things mentioned as contributors to non achievements of the planned activities. But at the same time internal and external factors that were beyond the capacity and authority of this Department and even the Government have also contributed in non achievements.

The population of the country as citizens, voters, taxpayers and businesses placed a responsibility-burden on the Government with high expectations to provide and or facilitate reliable, safe and affordable electrification to them. This is a challenge as this responsibility depended upon the resource availability to make such expectations become reality. There were criticisms for slow to non-service delivery to the population but this was again the challenge that a small Department as the Energy Office had to face.

There was no legal instrument to empower the DoE for its decisions. Political-will can be a good driving tool for moving forward but for certain energy issues, political decisions seemed to be the deciding factor rather than for economic and social factors for the future prosperity of this nation. This coupled with legal issues surrounding the electricity concession boundaries and durations.

The management issues for large energy projects have been an issue which required re-arrangement of the institutional project coordination with other departments and aid donors.

After all, challenges were faced and will be there at times. However, the DoE saw some of these as venues for gaining knowledge for improvements.

Staffing

The following tables provide information about staffing of the DoE in 2013.

Staffing	Details
Numbers:	Total staff [12] – Permanent [3], Probation [5], Contract [4]
Performance Appraisals Conducted	Annual for [7] staff
Study Leave:	None
Secondment:	None
Annual Administration Leave:	Total number of staff taking Administration Leave [4]
Other Leave/Resignation/Retirement:	Total number of staff taking sick leave [5]

2. APPENDICES

Appendix 1: Meetings, Workshops & Trainings Attended by staff of the DoE

Workshop	Objectives	Venue	Date	Outcome/Remarks
(ICS) – Individual Consultant Selection Training / Audit	Is to obtain high quality service, Ensure Economy and Efficiency, provide equal opportunity for qualified Consultant and Transparency with Selection Process. To get familiar with the Nature of Audits for WB Projects / Everything involved in getting audits completed in a timely manner in related with the World Bank projects implementing Units/Agencies including Waivers	Port Vila , Vanuatu	26th November 2014	To be professionals in all duties implemented related to ICS, TOR's and Accounts, Financial statements, contracting process with sufficient qualifications when advertising particular field of work and in analyzing Contracting Projects Budgets.
Sub-Regional Project Design Training Workshop of the EU-GIZ Adapting to Climate Change and Sustainable Energy (ACSE) Programme	Inform and train countries and implanting partners on the processes and procedures for Project Design Document (PDD) preparation, establishment of project management, project implementation and technical and financial management and reporting	Suva, Fiji	26th Oct-2nd Nov 2014	To develop the Project Design Document for the Solar and Bio-Solar electrification of Vanuatu with the implementation of a sector-specific Climate Early Warning System "Dashboard".
Global Green Growth Institute Workshop		Port Vila, Vanuatu	24 October 2014	
Micro Hydro Policy Markers Workshop for the Pacific	It aims to provide decision makers and energy leaders with resources for making higher level decisions	Nadi, Fiji	24 – 26 September 2014	IUCN Oceania and the Vocational Training and Education for Clean Energy (VOCTEC) Program
Pacific Efficient Lighting Strategy (PELS) Inception	Introduction of this new regional energy efficiency program	Nadi, Fiji	22 – 23 September 2014	To supplement the Promoting Energy Efficiency Program (PEEP) and the Pacific Appliances Labelling Standards (PALS)

National Montreal Ozone Protocol		Port Vila, Vanuatu	9 September 2014	
Wind Data Analysis Training	To train respective country's officers responsible for analyzing wind data	Port Vila, Vanuatu	3 – 4 September 2014	
Solar Agro-Processing in Vanuatu	Introduction of the use of solar power for the processing of crops in Vanuatu	Port Vila, Vanuatu	19 August 2014	
Climate Change and Energy Sustainability		Singapore	11 – 22 August 2014	
SREP Investment Plan Report	Present the final draft of the SREP report to the Government and the stakeholders	Port Vila, Vanuatu	11 August 2014	To get feedback from the stakeholders and the Government on what has been put together for submission to the SREP Secretariat
Business Development Incentive Tariff (BDIT)	To discuss the preliminary decision by URA on the Business Development Incentive Tariff	Port Vila, Vanuatu	22 July 2014	To receive comments on the decision by URA on this Incentive Tariff
SREP Investment Plan Options	Present the options that are available for the Investment Plan	Port Vila, Vanuatu	15 July 2014	To get feedback from the stakeholders and the Government
PEEP II Energy Audit Training		Port Vila, Vanuatu	2 – 9 July 2014	
Asia Clean Energy Forum		Manila, Philippines	16 – 20 June 2014	
PALS Consultation meeting		Port Vila, Vanuatu	10 June 2014	
EU-GIZ Adaptation to Climate Change and Sustainable Energy (ACSE) Meeting		Suva, Fiji	29 May 2014	
PALS Project Steering Committee Meeting & Lighting Workshop		Nadi, Fiji	27-28 May 2018	
SREP investment Plan for Vanuatu Stakeholders Workshop		Port Vila, Vanuatu	13 May 2014	
ESMAP SAR-EAP Renewable Energy Training Program	To promote, educate and engage participating countries in the	Pattaya, Thailand	23 – 25 April 2014	

	Renewable Energy Technologies			
National Appropriate Mitigation Actions (NAMA) Workshop		Port Vila	16 April 2014	
Coastal Risk Assessment (LiDAR Project) Workshop	Pacific Australia Climate Change Science Adaptation (PACCSAP) Program to provide detailed mapping information (LiDAR Data) to the Vanuatu Government over Efate, Malekula & Santo	Port Vila, Vanuatu	3 April 2014	This project provided detailed Mapping Information (LiDAR) to the Government of Vanuatu
Renewable Readiness Assessment (RRA) Workshop	To decide the path and identify potential renewable energy projects to assist in reaching the goals and targets set out in the NREM	Port Vila, Vanuatu	26 – 27 March 2014	
Dangerous Goods Training and Certification		Brisbane, Australia	10 – 14 March 2014	
NAB Workshop (LiDAR) Awareness Session	Information session showcasing new high resolution elevation (LiDAR) data in Vanuatu	Port Vila, Vanuatu	10 March 2014	
Waste Minimization Policy Workshop	To share common understanding of solid waste management, introduce the National Waste Management Strategy and obtain feedback on the draft National Waste Reduction/Recycling Policy	Port Vila, Vanuatu	19 February 2014	
Pacific and Caribbean Conference on Effective and Sustainable Regulation of Power and Water Services	To share information and experience on relevant energy and water sector policies, laws and regulations in small island countries and consider the best ways of promoting South-South Cooperation in policy, law and regulation of energy and water sectors, between and among Pacific and Caribbean Countries.	Suva, Fiji	25 – 27 March 2014	To get understanding on the different policies, legislations and regulations, its opportunities and challenges for Vanuatu

International Planning Meeting and Future Energy Forum	To introduce potential participants to the opportunities around the 2017 Future Energy Expo	Astana, Kazakhstan	22 – 24 October 2014	The Future Energy Expo will promote new energy solutions and innovations in conventional energy in the pursuit of sustainable energy and development.
Regional Workshop for the Asia-Pacific regions on Nationally Appropriate Mitigation Actions (NAMA)	To facilitate sharing of experiences, lessons learned and good practices in the process of preparation and implementation of nationally appropriate mitigation actions (NAMA)	Vientiane, Lao People's Democratic Republic	22-25 April 2014	The workshop was successful and as an outcome to the project, Vanuatu is currently developing its NAMA proposal with UNDP.
Small Island Developing States (SIDS) Conference (Renewable Energy Development)	Provide opportunity to help shape the global discussions on renewable energy in SIDS	Apia, Samoa	1 – 5 September 2014	Contributed to the successful speech of the Vanuatu Prime Minister at the SIDS Forum
Climate Investment Funds Meeting	Present the Scaling Up Renewable Energy Projects (SREP) Investment Plan (IP) for Vanuatu.	Washington DC, USA	17&18 November 2014	As an outcome of the meeting, the SREP IP was approved with a USD 14 million envelope of grant funding
Final PIGGAREP Multipartite Review Meeting (MPR)	Review what PIGGAREP has achieved over the 2007 – June 2014 period.	Nadi, Fiji	30th July – 1 August 2014	A plan for the extension of PIGGAREP or phase 2 of PIGGAREP was emerged as an outcome of the meeting.
Pacific Regional Meeting for Energy and Maritime Transport Ministers	Promotion of sustainable development of the energy and transport sector in the Pacific Region and to strengthen multi-disciplinary approach of regional solutions to complement national efforts in improving access to affordable and efficient energy and transport services.	Nadi, Fiji	31 March – 4 April 2014	The meeting outcomes are outlined in the Dinerau Communique.
SPC-IRENA Training on Energy Data and Policy Mechanisms to support Implementation of Renewable Energy Targets	Discuss process involved in defining, collecting, dissemination and utilization of data for design of sound RE targets	Suva, Fiji	11- 15 August 2014	This training is in support of the Pacific Regional Data Repository initiative.

Department of Environmental Protection and Conservation

2014 Annual Report

Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

SECTION ONE - OVERVIEW

About The Department of Environmental Protection and Conservation

The Department of Environmental Protection and Conservation (DEPC) is a Department within the Ministry of Climate Change Adaptation, Meteorology, Geo-hazards, Energy, Environment and National Disaster Management Office.

The DEPC (formerly the Vanuatu Environment Unit) was established in 1986. It carried the overall mandate for environmental management in an advisory capacity until 2002, when the Environment Management and Conservation Act (EMC Act) No.12 of 2002 was enacted. The EMC Act has now been amended to Environmental Protection and Conservation Act of 2010. The enactment resulted in the establishment of the Department of Environmental Protection and Conservation (DEPC).

In addition to the EMC Act, the DEPC also implements other national legislation;

- Ozone Layer Protection Act No. Of 2010 and its Regulations
- Pollution Control Act No. 2013
- Waste Management Act No. 2014

The DEPC is also the Operational Focal Point to numerous multilateral environmental agreements (MEAs) such as the UN Convention on Biological Diversity, UN Convention to Combat Desertification, and other chemical related conventions such as the Montreal Protocol on

Substances that Deplete the Ozone Layer, the Stockholm Convention on Persistent Organic Pollutants, as well as regionally agreed treaties such as the SPREP Protocol, the Waigani Convention of the Trans-boundary Movement of Hazardous and Radio Active Wastes.

Department has been divided into four (4) broad divisions for better clarity on roles and responsibilities, and better coordination of actions to protect and conserve the environment of Vanuatu for current and future generations.

The vision and mission statements for the Department demonstrate this broadened roles and mandates of the Division of Biodiversity Conservation, Division of Environmental Protection, Division of Environmental Assessment and Planning and the Division of Support Services.

10. Vision

'Leading Vanuatu to a clean, resilient and sustainable environment'

11. Mission

Think Environment First: Show People!

12. Areas of Responsibility

- To promote clean development in Vanuatu
- To build resilience communities who will be able to adapt to climate change
- To encourage and support sustainable resource management and conservation
- To promote Green Economy
- To work towards 'Sustainable Development"
- To explore the development of a Carbon Scheme for Vanuatu

13. Programs, Functions and Sectors Served

Programs

The Department has four main programs which include:

- Administration
- Biodiversity and Conservation
- Environmental Planning and Assessment
- Environmental Protection

Functions

The Department has three main functions:

- Ensure that appropriate legislation is in place to lead and guide public to achieve a clean, resilient and sustainable environment.
- Strengthen compliance &enforcement of environmental legislation, regulations and policies.
- Develop and strength coordination between all stakeholders government sector, private sectors, donor partners

Sectors Served

All Government Departments – Non-Government Organizations

14. Structure and Staff

The DEPC structure is currently under review by the Public Service Commission. There are a total of 17 staff, 10 of which are permanent, 7 are on contracted staff. There are also two volunteers working within the Department.

15. Funding Basis

The Department of Environmental and Protection and Conservation has a total budget of **15,538,977** of which **14,786,755** vatu was used on payroll/personnel expenses and **752,222** vatu went to operations.

About this Report

This report outlines major developments and initiatives carried out by the Department of Environmental Protection and Conservation from January to September 2014.

5. Reporting Requirements

Business Planning is a requirement from the Public Service Commission for all institutions to provide on an annual basis.

6. Reporting Processes

This document comprises of a collection of reports submitted by heads of different Divisions within the Department of Environmental Protection and Conservation and compiled by the Director of Environment. These reports are against the 2014 Business Plans as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

SECTION TWO - PERFORMANCE 2013

1. Biodiversity and Conservation Division

2014 Priority Activities and Results

Biodiversity and Conservation Division activities implemented over the last 9 months:

Month	Activity Implemented
February	• Rapid Biodiversity Assessment and reporting for the Forest and Protected Areas (FPAM) project hosted by the Department of Forest. Forestry Dept and DEPC co-joint in its implementation.
March	• Participated in the FPAM Project site -Homo Bay Conservation Area, south Pentecost landowners' consultation with the Department of Forest. • Participated in the regional steering committee meeting for FPAM project held in Port Vila. Also participated in the national steering committee meeting happened after the regional meeting.
April	• Contracted National Invasive Species Strategy and Action Plan consultant • Two Invasive species NISSAP provincial consultation workshops for southern provinces and northern provinces. • Vatthe invasive vine control activity commencement. Field visit by Invasive Species Project Coordinator and SPREP Invasive Species Technical Advisor. • NBSAP Review project SANMA provincial consultation workshop. • First stakeholders' consultation meeting for the FPAM Project site – Lusunuwe Conservation Area, Malekula. • Final review of the Vatthe and Penoru conservation areas management plans ready for printing. • Organized the Inception workshop for the GEF 5 Project Proposal and participated in the workshop.
May	• Leadership group three and half weeks meeting with ADB-CTI for the finalization of the DEPC revised structure. • Information package for community conservation areas booklet finalized. • National validation workshop for NISSAP finalization. • Environment and Climate Change Trust Fund national workshop held at Melanesian hotel.
June	• Submission of the DEPC revised structure to Public Service • Finalized the Vatthe and Penoru conservation areas management plans. • Printing of the above mentioned management plans and the CCA information package booklet. • Finalization and submission of the 5th national report to secretariat of Convention of Biological Diversity (SCBD).
July	• Part of the Environment week activities implementation in particular the awareness. • Penoru and Vatthe management plans launchings at Santo with Malvatumauri council of chiefs and SANMA Province. • NBSAP Review Project provincial consultation workshops for TORBA, SANMA and MALAMPA.
August	• NBSAP Review project provincial consultation workshops for TAFEA. • Reports write ups for NBSAP Review Project provincial consultations. • Recruitment of the MACBIO, CEPF and MARSH Project Liaison Officer.

	• Inception workshop for MARSH project held at Melanesian Hotel. • Facilitation of freshwater fish and crustaceans research applications for Tongoa and Gaua Island.
September	• Little red fire ant infestation site identification on Efate Island and basic GPS handling training with DEPC, Dept of Forest, Biosecurity and Land Survey. • Finalization of the NISSAP. • Preparation of COM paper for COM's endorsement. • Reports write ups for NBSAP Review Project provincial consultations. • GEF 5 project proposal first national Local Conservation Trust Fund workshop held at Dept of Forest. • MACBIO project ecosystem evaluation workshop held at Chantilly's. • MABIO sub-regional project staff familiarization meeting at IUCN Fiji office.

2. Division of Environmental Planning & Assessment

(Officer responsible is away)

3. Division of Environmental Protection

Vision: Safe Vanuatu. Protect our Environment.

Mission: An environmentally sustainable Vanuatu in which all types of wastes are collected, reused, recycled and treated by environmental sound technologies suited to local conditions and waste going to landfill is minimized and pollution to the receiving environment, is within acceptable standards.

The key strategic outcomes for the Environmental Protection Division are as follows:

To ensure a safe and healthy environment for all people of Vanuatu through effective and sound management of waste and chemicals

- By fostering behavioral change
- By developing and/or improving facilities
- Through integrated waste management
- Through effective hazardous waste management
- Through hazardous materials or substance management i.e. fuel
- By controlling and monitoring the import and export of Ozone Depleting Substances (ODS)

The Division of Environmental Protection consists of two sections: Waste Management & Pollution Control; and the National Ozone Unit (NOU). Details of the work programmes under these two sections were already included in the previous annual report for 2013.

Since DEPC was upgraded from being the Environment Unit to a Department level in 2010, there was no change at all in the staffing within this Division. Up until present the Waste Management and Pollution Control programme is still handled by one staff or Officer. Likewise, the NOU is still managed by two project Officers; both Officers and the operation of the NOU are funded by UNEP.

Also, the Waste Management and Pollution Control Officer is on study leave in 2014, and the responsibilities of waste management and pollution control is being handled by the Senior Education and Information Officer on a temporary arrangement.

In 2014, two important Acts were passed by the Vanuatu Parliament and were already gazzetted by State Law Officer: Waste Management Act; and Pollution Control Act. These Acts will provide the legal mandate for the waste management and pollution control section to carry out its duties and responsibilities. This section is currently working on appropriate regulations to help implement the two Acts effectively.

Activities implemented by Waste Management and Pollution Control Section

The following activities outlined below were undertaken in 2014 by the Waste Management and Pollution Control section:

January

- Waste Management and Pollution Control Officer left Vanuatu for study leave

February

- Workshop was held in Port Vila on the 'National Soild Waste Minimization Strategy' in February 2014 under the direction of the Director of DEPC, Mr Albert Williams.

- Also, Luganville Joint Coordination Committee (JCC) was held in Luganville in 17 February 2014, which saw all Vanuatu J-PRISM counterpart members came to discuss issues related to the project.

March

- An aluminum can collection system was set up in Luganville town. This has proved to be working quite successfully
- A pre-paid bag system was already approved by the Luganville Municipal Council. However, the implementation of this pre-paid bag system will start in November 2014.
- New landfill site identification for Luganville is on-going with the assistance of Lugnaville Municipal Council
- Manual recording of the incoming vehicle at Bouffa Landfill has started with assistance of the Port Vila Municipal Council and the Bouffa Landfill Manager, Mr Amos Mathias.

April

- The market green waste compost pilot project was implemented in Port Vila in cooperation with the Vanuatu Direct Farm, mainly using the green waste from Port Vila and Freshwota markets. The report on this project was produced.
- Teachers training workshop on 3Rs including soil and liquid composting was conducted at Wan Smol Bag Haos. This training also included a 'Klin Skul Competition' session which schools are encouraged to participate in this competition which would run from April to September 2014. Mr Brian Roberts from Wan Smol Bag Theatre and JICA volunteer at DEPC (Mayuka) assisted in running this training.
- COM papers developed and approved by COM, for the passing of the Waste Management Bill (Act) in Partliament early this year.
- COM paper was also developed and approved for the ratification of the COP4 and COP5 amendment of the Stockholm Convention to ensure Vanuatu to fulfill Vanuatu's obligation under this Convention and to ensure Vanuatu is eligible for funding of national activities highlighted under the National Implementation Plan (NIP).

May

- JOCV based with DEPC has held talks on 3Rs with various schools around Port Vila, Luganville and Lenakel. She was assisted by Brian Roberts of Wan Smol Bag Theatre.
- Organized and participated in a national stakeholder chemical convention workshop with the assistance of Dr Frank Griffin of SPREP. This workshop covered three conventions which Vanuatu is preparing to sign up to: Basel, Rotterdam and Minamata Conventions.
- Teaming up with the Agriculture Department to run an afternoon training on solid and liquid waste composting with the Save the Children youth and staff.

June

- As part of the National Environment Week celebrations, a month long environment awareness campaign was conducted with schools and communities in Port Vila and around Efate Island from 6th June – 4th July 2014, in which waste management and 3Rs was also included in the campaign.

July

- Aluminum can collection pilot project at Freshwota 1-6 is under preparation. One community leaders meeting was held in 14 July.
- Developed COM papers on the ratifications of three chemical conventions: the Basel, Rotterdam and Minamata Conventions, which hopefully they will be debated in Parliament in the next siting.
- Second teachers consultation meeting held at Wansmol Bag Theatre to follow up on the waste management activities with the schools such as beautification program, 3 RS, waste separation, etc… Brian Roberts and JICA volunteer with DEPC (Mayuka) and another JICA volunteer based with the Vanuatu Teacher's College, assisted in running the meeting.

August

- A third Waste Audit Survey was implemented in Luganville in August 2014, with the assistance of New Zealand Volunteer and JOCV from Santo and DEPC (Vila).
- J-PRISM technical working committee met to discuss the aluminum can collection pilot project in detail. A decision is then made for the project to be implemented in Freshwota 4 only and if proved successful, it can be applied in other Freswota areas.
- Another community leaders meeting was held with Freshwota 4 community in which the J-PRISM technical team members discuss the aluminum can project in detail. Member of the community showed a lot of interest in this project. It was decided that several cages would be built and placed in Freshwota 4 area for aluminum and can collection.

September

- First waste characterization survey was implemented in Lenakel from 25th August to 1st September 2014. Port Vila counterparts (Berry George) assisted in implementing this survey.
- Capacity building workshop related to Multilateral environmental agreements in ACP countries – Phase 2 (ACP/MEAs2) and Rotterdam Convention for Pacific Island Countries, 10-12 September 2014, Suva, Fiji
- As part of the J-PRISM project, a waste management survey was conducted using selected households from Freshwota 1-6. Results of the survey were analyzed with the assistance of Port Vila Municipality and JICA.

October

- Technical Working group on 'Used Oil Stewardship Project' meeting held on 3rd October discussing briefly the need to develop a legislative framework, such as an used oil regulation, to help manage the issue of used oil in Vanuatu.
- The above meeting also raised the discussions on the need for an environmental trust fund to be set up which money generated from the different initiatives such as levy, green fee, permit, etc. should be deposited into the trust fund. The fund should then be managed outside the finance system of the government by a management committee. This fund should be used to fund environment activities that

require emergency response such as dealing with oil spill. A project proposal on the establishment of this environment trust fund will be developed and submitted soon to Finance Ministry.

Other activities undertaken by the Senior Education and Information Officer/Acting Waste Management and Pollution Control Officer in 2014

- Launched the Amal Krab Bay Management Plan (on behalf of the Director of DEPC) in January 2014 with the Director of IUCN (Dr Milika) and the Senior Biodiversity Officer and MESCAL Project Coordinator.

- Main staff responsible for the organization of the National Environment Week from 5th June to 4th July 2014. The week coincides with World Environment Day which falls on 5th June every year. The launching of the week took place at the Climate Change Ministry compound by Hon. James Bule, followed by tree plantings at the Ministry's compound followed by a BBQ. An awareness raising activity was undertaken by staff of DEPC on various environment issues (environment, energy, climate change, biodiversity and conservation, mangroves, forestry, waste management and pollution, ozone depleting substances, etc.) from 6th June to 4th July, especially with the Port Vila and Efate schools and communities, including some private companies. This has proved to be very successful.

- Occasionally presenting the 'aelan blong yumi' environment radio programme.

- Developed COM paper for the ratification of the Nagoya Protocol. Nagaoya Protocol was passed by Parliament in April 2014 and will be gazette soon by State Law Office.

- Worked with IT Karae Vurobaravu to developed a new CITES permit electronic system, and is now ready for use by DEPC

- Attended the regional CITES meeting on sharks listed species in February, Nadi, Fiji. This meeting was also attended by representatives from Fisheries and Customs Departments

- Launched the management plans (on behalf of the Director of DEPC) for the Vatthe Conservation area, Big Bay, Santo; and Penoru Protected Area (West Santo) in July 2014.

- Attended the pre-CBD COP, CMS and Ramsar preparatory meeting held in Nadi, Fiji, from 4-20th August 2014

- Attended the CBD COP12 in Korea from 4-18th October 2014, with the Minister of Climate Change and Environment, Hon. James Bule and First PA Mr Gideon Tabius.

- Will attend the Pacific sub-regional workshop on Access and Benefit Sharing (ABS) in Sydney from 10-13th November 2014.

The Montreal Protocol Ozone Project: The National Ozone Unit (NOU):

The National Ozone Unit was set up in 2010, and its primary function is to assist the Department implement Vanuatu's obligations to the Montreal Protocol. The Unit also assists the DEPC implement the Ozone Layer Protection Act. The Unit implements a Licensing and Quota System that controls the import and export of ozone depleting substances (ODS) in/out of Vanuatu.

Renewal of Registration of Importers, January 2014

This year two companies were given approval by the Director to be Approved Importers and have approved facilities. Inspections to their facilities were carried out to ensure they met requirements for storage of ODS were carried out.

Pacific Island Countries Network Meeting of Ozone Officers, March 2014

The objectives of the meeting to deliver to PIC-National Ozone Officers the needed skills and resources required to sustain national implementation of obligations under the Montreal Protocol for the phase out of ozone depleting substances.

The focus of the meeting is on lessons learnt on national compliance management, effective monitoring reporting and emerging issues for the Hydro-chlorofluorocarbons (HCFC) phase out management. Countries situations of use of other ODS was also discussed.

Recommendations for the meeting included, encouraging countries when issuing license (to fishing vessels) to consider the type of technology being used, suggesting that PICs work more closely with members of the Asia and the Pacific region or co-opted member to raise issues/concerns as none are represented in the ExCom or the Imp Com, noting the need to have training on hydrocarbons as HC based equipment are starting to be imported into the country and that countries were encouraged to have a HPMP tools skills assessment form where it could be modified to suit the country's context. This would enable NOOs to know if technician know how to operate the equipment.

Physical Inspection of Cargo carried out, March 2014

Two shipments were examined in March this year to ensure compliance with the OLP Act. Both shipments were of air conditioning units imported from New Zealand. All units contained R410a, an alternative to R22 that is allowed entry into Vanuatu.

Import of R22, March 2014

One of the registered approved importers requested permission to import R22. The Director gave approval for 55Kg of R22 to be brought into the country. The levy collected was 5,500VT.

iPIC Online Training, April 2014

This training was provided in reference to discussions during the PIC Network Meeting in Tonga regarding the iPIC Training. The online training was run on April 10. The purpose of the hour-long training was to allow NOOs familiarize themselves with logging onto the system and updating information.

Ozone Layer Protection (Amendment) Act No. 2014, May 2014

The Amendments to the OLP Act were tabled in the 2014 May National Parliament. The NOU and the Director were able to brief the Minister prior to the sitting so Hon. Minister Kalsakau was able to respond to questions in the sitting quite well. Important Amendments to take note of are:

1. Broadening the definition of 'officer' to include officers of the National Ozone Unit established under the proposed section mentioned below

2. A new Part that addresses the administration of the Act that:

- Establishes the National Ozone Unit. The purpose of this section is to recognize in statute the pre-existing National Ozone Unit.
- Creates a power of delegation so that the Director may delegate specific functions to the National Ozone Unit
- Confirms the functions and duties of the Director

3. Reducing the number of members of the National Ozone Advisory Committee for reason that it has proved impractical and impossible to convene a meeting with all members of the Committee. The members of Committee that we propose to remove are those members who are not directly involved in the implementation of the Act.

We also wish to remove the requirement that representatives of private sector industry be nominated by the National Council of the Chambers of Commerce and Industry. Again this is due to practical difficulties faced by the Department in implementing this requirement. Since the commencement of the Act, the National Council has not been forthcoming in nominating representatives. Accordingly, we propose to remove reference to the National Council and replace it with a policy that the National Council be invited to nominate representatives from private sector industry. In the event that the Council fails to nominate, then the Director will invite persons from industry to join the Committee.

The Department/NOU is currently awaiting confirmation that this Act has been gazette.

Country Program (CP) Report and Article 7 Data Report, May 2014

Both of these reports are submitted annually to the multilateral fund (MLF) secretariat and the Ozone Secretariat (OS) respectively.

Imports of ODS for the Year 2013

ODS Imported	Quantity	Total
R22	0.68 MT	
Methyl Bromide	0.4 MT	
	TOTAL	1.48 MT

Quota for Vanuatu per annum: 5.45MT

Total imported in 2013: 1.48MT

Total remaining: 3.97 MT

We are also required to report the average prices for refrigerants sold in Vanuatu:

	R22	R404a	R134a	R410a	R407C	R507
Average price (VT)	27625	24643	26217	30409	24433	32342

At the moment there are four (4) companies that sell the above refrigerants in Vanuatu. Prices are according to per cylinder.

World Environment Day, June 2014

This year the DEPC decided to celebrate WED by organizing awareness talks and articles for a month.

The NOU was asked to visit the Year 8 classes at the Vila East School and give a talk about Ozone and the Montreal Protocol. We were also asked to travel to secondary schools to the north of Efate to deliver awareness talks on Ozone as well.

Legislative Drafting Process Workshop, June 2014

Towards the middle of the month, the NOO was fortunate enough to attend this work which was facilitated by the State Law Office. The purpose of this workshop was to make officials aware that legislation is not just the work of the Parliamentary Counsel and Legislative Drafters at the State Law Office, but that officials have a very important role to play in the process of creating legislation for this country.

The two-day workshop began with the development of policies, before completing with pointers on how to develop drafting instructions.

All of the participants of the workshop recommended that the SLO should organize more of these types of workshop in the future.

In June 2014, the UNEP Regional Office in Bangkok transferred the final payment of the Small Scale Funding Agreement (SSFA) for Phase IV. The total amount transferred was 12,000 USD.

HFC Management Workshop and Open-Ended Working Group Meeting to the Montreal Protocol, July 2014

The workshop on Hydrofluorocarbon (HFC) Management was convened in response to discussions on HFCs by parties to the Montreal Protocol. It provided an opportunity for focused and in-depth discussions on key issues related to the management of HFCs. The workshop was divided into four sessions, on technical aspects; legal aspects; finance and technology transfer; and policies and measures.

The 34th OWEG agenda included items such as the progress report of the Technology and Economic Assessment Panel (TEAP), Proposed adjustments and amendments to the Montreal Protocol, an update on the Liaison by the OS with Organizers of the SIDS Conference regarding implementation of the MP and proposals for talks to begin with the WCO to introduce HS codes for hydrofluorocarbons (HFCs).

Pacific Island Countries Thematic Meeting on HPMP for ODS Officers August 2014

The objective of this regional meeting was to conduct an assessment on the status of implementation of the PIC HPMP stage 1 tranche 1 and to identify additional needs required to be addressed under tranche 2 HPMP.

Implementation activities in the HPMP SSFA are the following:

- Adopting HS code for HCFCs
- Establishing quota system for the import/export of HCFCs
- Establishing and operating the permit system for the handling, storage and sales of HCFCs
- Strengthening use of iPIC
- Organizing national customs training workshop
- Disseminating the provided refrigerant identifier(s)
- Organizing customs refresher training
- Establishing import control/ban on the HCFC-based equipment
- Organizing national technicians training workshops
- Disseminating the provided sets of equipment/tools
- Organizing technicians' refresher training
- Establishing/strengthening the refrigeration industry association
- Producing communication tools/materials
- Organizing outreach/communication event(s);
- Organizing joint ozone/customs officers meeting
- Coordination and Monitoring by submitting interim and annual reports to UNEP and MLFS

Vanuatu has implemented all of these activities and is currently in process of implementing the following; establishing import control/ban on the HCFC-based equipment, disseminating the provided sets of equipment/tools and organizing outreach/communication event(s).

With regard to the special needs assessment in Vanuatu, the following points need to be considered:

- influx of hydrocarbon refrigerants and equipment into the country as alternatives; there is no training available at present for the handling of HC
- certification of RAC technicians; Vanuatu has none in place at present
- training of technicians and customs border officers that are located on the outer islands (esp. in Santo, and Tanna); funding is not enough to carry out training in islands other than on Efate, where the capital of Vanuatu is located
- Distribution of equipment in a fair, transparent manner, and the monitoring of such equipment
- Sustainability of activities such as annual training of technicians and customs officers
- The RAC Technician Association is not easy to set up and maintain. In the past 3 years, there have been two attempts to set up the association. The NOU takes an advisory role only, and the technicians need to show commitment and the willingness to be a part of the association. Unfortunately it seems there are a lot of differences between companies, and this makes it difficult for a working association to form and maintain.
- Monitoring with the fishing sector needs to be re-visited and proper procedures in place (especially with regard to reporting requirements)

These are points and issues that will be taken into account when Vanuatu is requesting for its Tranche 2 of the HPMP. It was agreed upon however that the regional activities in this tranche would be centered on training for technicians in the use of hydrocarbons (HCs). At the moment, Ozone Officers are discussing the following options:

- One regional trainer, with a regional manual for all PICs
- One regional manual with in-country trainers

Some countries will be able to have an in-country technician (their National Trainer) deliver the HC training. Other countries however will need to bring an outside trainer to come into the country and deliver the training; this is why there will be one regional manual. A cost analysis is currently being undertaken by a nominated officer.

Customs Refresher Training and Handover of Refrigerant Identifier, September 2014

The Customs refresher course was facilitated by Ms Artie Dubrie and the NOU. The Customs Border Offices were able to bring a Border Control Officer from their Santo office to Vila for the one-day training.

In addition to a theory session on the Montreal Protocol and Vanuatu's obligations, the facilitator was able to carry out a practical session with Border Control Officers. The session involved demonstrations on how to test the type of refrigerant present in a cylinder.

At the end of the training, the Principal Environment Officer officially handed over a refrigerant identifier to the Manager for Customs Border Control.

Imports of R22, September 2014

In September, the two registered companies requested permission for an import of R22. One company imported 272kg of R22 from Singapore. The levy charged was 27,200VT.

The other company imported 108.8kg of R22 from Fiji. The levy charged was 10,880VT.

Both imports were approved by the Director.

Compliance Issues, September 2014

The NOU was contacted by the Border Control offices at the Wharf in Vila to inspect a company's import of R407 cylinders. R407 is a non-ods and is therefore allowed into the country.

When tested with the refrigerant identifiers, it was found that the cylinders actually contained R22. These cylinders were seized and the DEPC's Compliance Officer issued a penalty notice to the company. This is an on-going case that has yet to be resolved.

4. Division of Environmental Planning and Assessment

The Division of Environmental Planning and Assessment (DEPA) is seeking ways to promote better management and protection of the natural environment through effective planning, implementation and enforcement of the Environmental Frameworks (EF) to ensure clean, resilient and sustainable use of the natural resources for the citizens of Vanuatu.

VISION:

Ensuring sustainable development for the protection and management of natural resources today and tomorrow

MISSION:

Think environment now to ensure its sustainability – Investing into the future today

Tabled below is a summary of Activities implemented by the Division over the last 9 months from January to September 2014

Activities	Action	Output indicators	Comments
Ensure Compliance to EIA laws and Regulations	Undertake compliance audit site assessments on Development projects. Audit Report produced	2 Audit reports produced Had visited about 10 development sites of commercial operations, quarries, and waste dumps.	Is an ongoing activity to check on projects that are compliance with requirements of EIA laws and Regulations and conditions of Environmental approvals
Undertaking Preliminary Environmental Assessments (PEA)	Do site visits PEA reports produced Authorizing Government Departments to do PEAs Reports Reviewed	Over 60 PEAs produced and Reviewed	An ongoing program of activity for the Division
EIA Reports	TORs for EIAs of development projects produced Outlining scope of EIA Registered consultants produced EIA reports EIA reports submitted for review	12 development projects gone through full EIA.	3 project still in the process of EIA - Vanuatu Domestic Wharf - Takara Geothermal Power Plant Project - Port Vila Urban Development Project Subdivision projects still on hold – Subdivision EIAs will not be processed until decision of withholding subdivision applications is uplifted - Subdivision Project for Laurent Rene 4 EIA reports will be reviewed soon

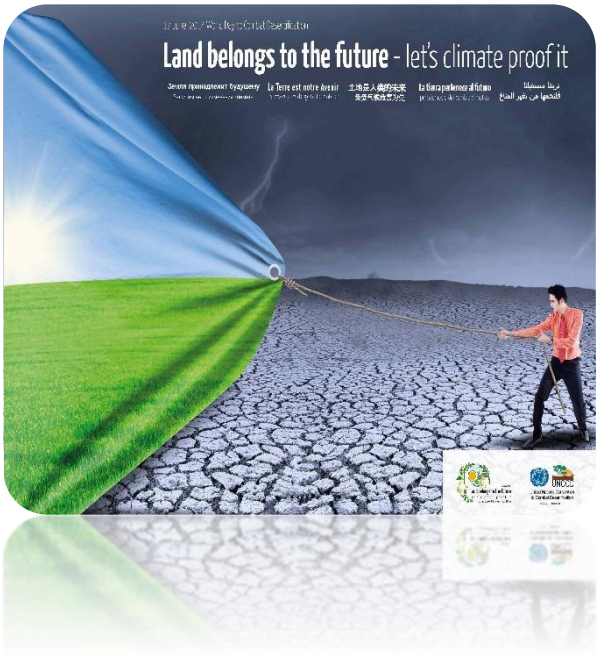
			- Supermarket & Petrol Fuel Station Korman Area - Sea Cucumber Farming and Processing Moso Island - Luganville Wharf Rehabilitation Project - Subdivision project at Lakatoro 4 EIA reports approved - Vanuatu Tourism Infrastructure Project - Lapetasi Wharf Project - Maltauriki Quarry Project - Desalination Plants project
Division Strengthening/building	Maximizing skills from volunteering programs Assist volunteer to draw up work plan for next 18 months Performance management	Hosting a legal support officer who started in June 2014 2 meetings of Leadership Group with Consultant	Ongoing work with the Division Will continue through to 2015
Information Management	Development of EIA Database Development of new Filing Codes	EIA Database developed and updated EIA filing codes developed and used	Assistance from Legal Support Officer
Improve Environmental Frame Work	RETA 7566-REG: Strengthening and Use of Country Safeguard Systems Subproject: Strengthening Implementation Capacity for EIA in Vanuatu	Safeguard specialists started 20 October 2014 – 12 months engagement in this project Environmental Legal Specialist – will produced a report on analysis of Vanuatu's EIA laws and Regulations	Working to enhance EIA processes, developing standards, guidelines etc…. Report will be produced end of October 2014

		Team leader/EIA Specialist	Will commence next year 2015 – 9months working in the project
International Liaison and Affiliation	Produce UNCCD Report and submit through UNCCD Portal Attended NAP Alignment & Reporting Workshop in Nadi	Report completed and submitted via the UNCCD Portal UNCCD report completed on time	Reports are done every after 2 years on the implementation of the objectives of the Convention
People Management and working together	Division weekly meeting	Minutes produced	Ongoing Divisional Meetings
Strengthen Inter-Departmental Partnerships	Participate and dialogue through meetings on work related programmes, requirements and plans	Member of Land Management Committee Member of National Housing Committee Member of National Offshore Mineral Committee Member of National Subdivision Advisory Committee	Always committed to attend meetings when called by the Department concern
Awareness	Conduct awareness with private sectors and Primary school on the requirement of EIA laws	Presentation made at Kramer Ausenco and Eton Primary School	Presentations made during the National Environment Week – With Division of Environmental Protection and Biodiversity

Acknowledgement & Presentation from Director of Kramer Ausenco after a presentation made during the National Environment Week

Samples of information materials displayed during the World Day to Combat Desertification 17 June 2014 integrated with World Environment Day

Sharing of information to the public about effects of droughts and promoting sustainable land management techniques is important to investing into the future. The slogan in the postcard draws one's attention to land and soil within climate change



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National Disaster Management Office

Annual Report 2014

Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

This document comprises of a collection of reports submitted by heads of different Divisions within the National Disaster Management Office and compiled by the Director of NDMO. These reports are against the 2014 Business Plans as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management.

SECTION ONE - OVERVIEW

Review of 2014 by the Director

The National Disaster Management Office (NDMO) is another Vanuatu Government department that functions under the National Disaster Act (CAP 267). The NDMO is the official government agency to coordinate responses to emergencies and disasters. Eighty percent (80%) of the work that NDMO does is coordination of responses to emergencies and disasters and twenty percent (20%) as an implementing agency for disaster risk reduction and climate change adaptation programs and activities.

There are eight positions under the NDMO approved structure by the PSC and only seven (7) staff has been recruited so far. One position will be recruited as soon as all necessary paper work are in place. The World Bank IRCCNH and UNDP PRRP projects have assisted the NDMO by recruiting four (4) positions to be based in four provincial governments as Provincial Disaster Officers (PDOs) in Torba, Tafea, Sanma and Malampa provinces.

The NDMO is also working closely with line government and partner agencies. Partner agencies include donors and members of the Vanuatu Humanitarian Team (VHT). There is a TA under the Australian Civilian Corps (ACC) working as a Disaster Management Advisor and two USA Peace Corps volunteers working with the NDMO.

ACHIEVEMENTS OF THE NDMO

The NDMO is currently under the Ministry of Climate Change and Disaster Management and so far the following achievements had been undertaken:

- In 2014, the NDMO had gone under a transition and all seven (7) staff recruitment is under the PSC;
- The NDMO is currently housed under the same building as the Ministry of Climate Change & Disaster Management and Vanuatu Meteorological and Geo-Hazards Building;
- The NDMO is also host to the National Emergency Operation Centre (NEOC) which was funded under a World Bank Project;
- In 2014, with donor funding, the NDMO recruited five additional staff for Port Vila, Tafea Torba, Sanma and Malampa provinces. There are four Provincial Disaster Officers for Tafea, Torba, Sanma and Malampa under a World Bank funded and UNDP projects will eventually come under the PSC;
- The NDMO with the assistance of the Vanuatu Humanitarian Team (VHT) network had established Provincial Disaster and Climate Change Committees (PDCCC) in all six Provincial Government Headquarters;
- The training of the PDCCC is an ongoing exercise which will continue under the current arrangements; and

- The NDMO is also working with other VHT members to establish and train community disaster and climate change Committees (CDCCCs) throughout Vanuatu.

ONGOING ACTIVITIES

- Ensure that the NDMO performs its roles and responsibilities;
- Review of the PAA to reflect the work that the NDMO and partner agencies are doing in Vanuatu;
- Review the National Disaster Act (CAP 267);
- Review and develop Provincial and community disaster plans and other relevant documents;
- and Continue to strengthen national, Provincial and Community disaster and climate change networks.

National Disaster Management Office

The National Disaster Management Office (NDMO) is a Department within the Ministry of Climate Change Adaptation, Meteorology, Geo-hazards, Energy, Environment and National Disaster Management Office.

THE MAIN FUNCTIONS OF THE NDMO ARE TO:

- Coordination of responses to emergencies and disasters;
- Work in partnership with other humanitarian partners and emergency services;
- Implement strategies and policies of the national disaster committee (NDC);
- Advise the NDC in relation to disasters;
- Ensure that aid for disasters is used for the purpose for which it was provided;
- Establish clear communication networks between government and non-government agencies at all levels;
- Develop disaster education programs for community an organize disaster training exercises; and
- Perform other duties under the National Disaster Act.

16. Vision

The vision of the National Disaster Management Office is: “Ensuring that there are safer, secure and resilient communities in Vanuatu through the government assisted decentralized system.”

17. Mission

The NDMO works to achieve its Vision by being:

- Review and implement the National Disaster Risk Management Act [CAP 267];
- Coordinate and facilitate the implementation of the National Action Plan on Disaster Risk Reduction and Disaster Management 2006 – 2016;
- Activation and coordination of Emergency and Humanitarian relief operations;
- Strengthen national, provincial and community networks to DRM and climate change adaptation

- Develop disaster and emergency response planning program in partnership with responding agencies
- Promote and encourage holistic approach to DRM and climate change adaptation in the country
- Promote mainstreaming of DRM and Disaster Management into sector policies, legislation, program and budget.
- Facilitate Provincial and Community Disaster Management Arrangements
- Promote safer, securer and community resilience through awareness and training programs; and
- Inform community on hazards and risk for safer development planning program.

Specifically, this will be achieved through the excellence in the following areas:

- Effective coordination of responses to disasters;
- Strengthening disaster and climate change networks at National, Provincial and community level;
- Mainstreaming DRR and CCA programs and activities into other sector plans, policy and budget;
- Inform community and partners al all layers in hazards and risk for safer development planning program;
- Improve effective and reliable communication networks and linkages amongst all partners at the national, provincial and at community levels;
- Facilitate capacity building on DRM and CCA at all levels;
- Develop DRM & CCA policy;
- Review the National Disaster Ac (Cap 267) and
- Develop an NDMO Strategic Plan.

18. Principles

The guiding principles of the NDMO are:

- **Coordination**: organizing and assisting people to work together using shared resources and capacities for DRM and CC;
- **Accountability**: maintain the integrity of the department by ensuring culturally acceptable provision of services for all;
- **Transparency**: Operating openly for others to see and to enable effective good relationships among our partners and increased participation in all aspects of the planning and implementation of activities;
- **Partnership**: Working with other responsible humanitarian actors including government private and civil society organisations;
- **Inclusiveness**: Encourage greater participation of all groupings in all aspects of interventions thus advocating for gender equity and equality;
- **Sustainability**: Making sure that program and activities continue into the future;
- **Equity**: Maintain the principle of neutrality and impartiality and upholding the dignity of all the people that we serve.

19. Objectives

The NDMO aims to coordinate responses to emergencies and disasters to ease the impact of both natural and man-made hazards throughout Vanuatu through 9 core objectives:

1. To improve and strengthen coordination of responses to emergencies and disasters at national and provincial levels;

2. To improve preparedness planning in disaster risk reduction and climate change adaption programs and activities
3. To improve communication networks and linkages at all levels;
4. To improve engagement between line agencies and VHT members at national, provincial and community levels;
5. To mainstream DRM and CCA arrangements across all government, civil society and private sector plans policies and budgets;
6. To conduct awareness and training programs and activities at national, provincial and community levels;
7. To promote and strengthen DRR and CC activities at all levels;
8. To improve monitoring, evaluation and learning processes;
9. To improve knowledge management systems on DRM and CC.

20. Areas of Responsibility

The National Disaster Management Office is mandated by the Government of Vanuatu under the National Disaster Act (Cap 267) to oversee the overall coordination of responses to emergencies and disasters.

21. Programs, Functions and Sectors Served

Programs

The Department consists of six (6) programs to carry out its functions and they are as follows:

1. Administration
2. Disaster Risk Reduction
3. Provincial Liaison
4. Research & Planning
5. Operations
6. Training & Awareness

Functions

Each of these six programs has the following functions:

1. **Administration**: Provide corporate services of clerical duties, office administration, financial management, facility maintenance, Emergency Contact listings, filing/archiving, employee attendance;
2. **Disaster Risk Reduction:** coordination of documentation on traditional responses to disaster and emergency, Work with NGOs re DRR messaging, develop DRR training modules, Community Profile Information Data Base, CDCs located & recorded;
3. **Provincial Liaison:** Liaise with Provincial Disaster Officer/s to improve response in provinces in communications, messaging, planning and training Assist establishment of Provincial Disaster Committees.
4. **Research & Planning:** Community profiling, Earthquake National Support Plan; Tsunami National Support Plan, Cyclone Support Plan; Volcano Evacuation Contingency Plan, Logistics Baseline Data, Disaster Committee DRM as identified by Business Plans, SoPs for PDCs.
5. **Operations**: Compilation of Quarterly Reports, Bi-annual staff appraisals, Business Plan coordination Emergency & disaster co-ordination, operation of the NEOC, Logistic Cluster coordination;

6. **Training & Awareness:** awareness training on DRM to NDMO staff, PDCCs, Area Councils and sector response partners/agencies, Simulation exercises; Advocacy campaigns, development of a National DRM Training Manual, Sphere Training at national & Provincial level.

Sectors Served

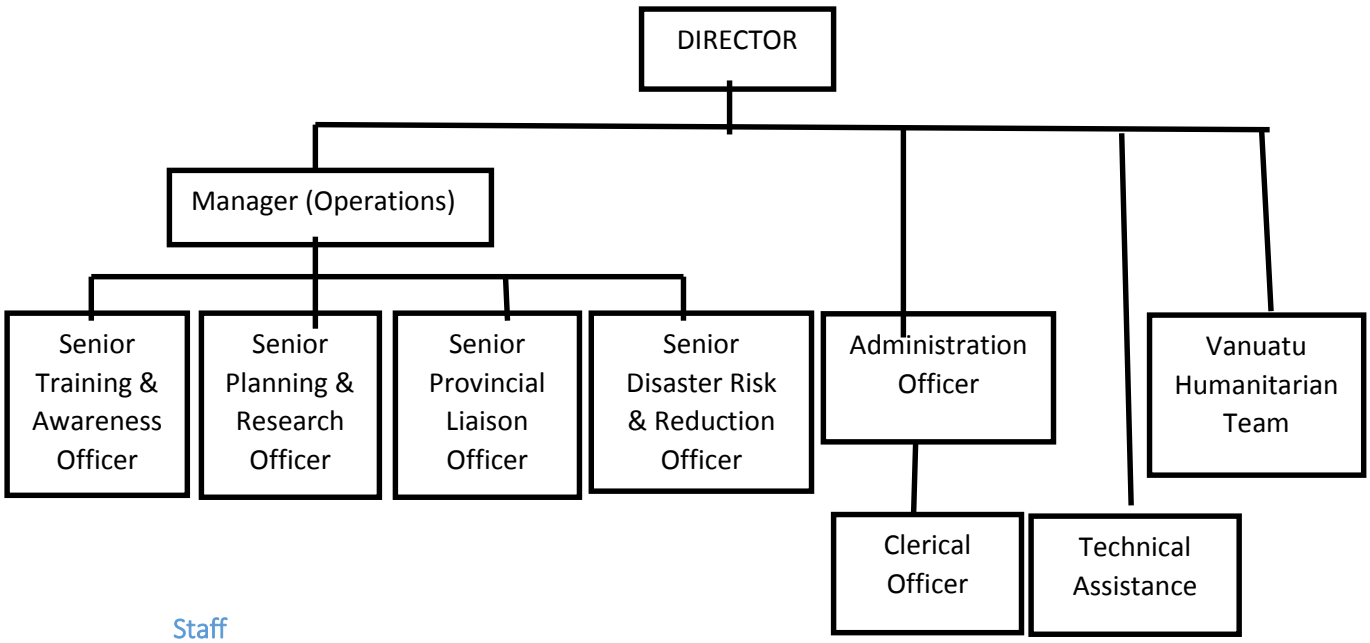
The National Disaster Management Office is a cross sectoral organization, working with:

- Line Ministries of the Government of Vanuatu
- Provincial Governments
- VMF & VPF
- Private sector
- NGOs
- CSOs
- Women's & Youth Groups
- Malvatumauri
- Volunteer agencies
- Vanuatu Humanitarian Response Team (VHRT)
- Regional organisations
- International Disaster response organisations
- Donor Partners
- Communities

Structure and Staff

Structure

The existing structure of NDMO is in the exhibit below.



Staff

In 2014 the Office Structure approved by the Public Service Commission in 2010 had 7 positions. During 2014 all positions were filled by permanent staff. However, it was felt that the structure

needed review. Technical support for the consultative drafting of an NDMO Strategic Plan would inform the restructure to better resource NDMO to fulfill its mandated role.

Funding Basis

In 2014 the NDMO was allocated

Total Allocation by government:	23,424,224
Salaries:	16,822,549
Operations:	6,601,675

Despite an ever increasing presence and functions in the provinces and regionally, the NDMO budget allocation has not increased for many years.

Funds from Projects, Donors, Regional bodies continue to provide significant support for the operating and staffing expenses, participation in regional and international fora, masking the parlous state of under-resourcing (human, equipment technical and operations) provided by the GoV for the critical role and activities of NDMO.

Ministry and Policy Framework

Ministry, Minister and Director General

The NDMO provides advice to the Ministry, Minister and Director General as requested. Briefing and Discussion Papers used as the basis for the Development Committee of Officials (DCO) and Council of Ministers (COM) Papers are prepared as required.

The Director accompanies the Director General to meetings with the Minister as needed.

Policy Frameworks - National, Regional and International

The legislative and institutional framework for the NDMO is based on the National Disaster Act (CAP 267) of 2000, which is the main document establishing the legal structure concerning Disaster Risk Reduction and Disaster Management. The Disaster Act is accompanied by regulations embodying Vanuatu's Disaster Risk Reduction (DRR) and Disaster Management (DM) policies, the Priorities and Action Agenda (2006-2015) Supplementary for Mainstreaming Disaster Risk Reduction and Disaster Management (PAA Supplementary), and the National Action Plan for Disaster Risk Reduction and Disaster Management 2006-2016 (NAP).

In 2006, the Disaster Management Act was revised, but this revised version was not approved by the Council of Ministers.

In 2012, the Vanuatu Government improved its DRR and DM arrangements through merging the NDMO, the National Task Force (NTF) and the National Advisory Committee of Climate Change (NACCC) into the National Advisory Board on Climate Change and Disaster Risk Reduction (NAB). This brought together key agencies such as the NDMO, Department of Meteorology, Department of Geo-Hazards and the Climate Change Unit, allowing for more effective DRR and DM.

A study was undertaken in 2011 of Vanuatu's legal and policy framework for managing foreign disaster response, "International Disaster Response Laws Rules and Principles (IDRL) in Vanuatu", commissioned by the International Federation of Red Cross and Red Crescent Societies (IFRC) and the Vanuatu Red Cross Society (VRCS). This study makes a number of key findings and

recommendations for legal reform relating to institutional arrangements and international cooperation based on the IDRL Guidelines and other international and regional instruments.

At the international level, the Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disasters identifies a number of priorities for governments to integrate into existing policy frameworks and legislation. A new global framework was recently launched in Sendai, called the Sendai Framework for Disaster Risk Reduction 2015-2030, providing new guiding principles and priority actions.

At the regional level, the regional Framework for Action has been developed in line with the Hyogo Framework for countries in Pacific region.

The Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Recovery Assistance of 2007 (IDRL Guidelines) also recommend a number of legal measures to be implemented by governments to facilitate and improve the effectiveness of international cooperation in disaster.

The Council of Ministers (COM) decision number 18/2013 (April 2013), in a strategic re-alignment of Departments , created a new Ministry – the Ministry of Climate Change Adaptation, Energy, Environment, Geo-Hazards and National Disaster Management Office (NDMO). This was followed by the Gazette of 23 April 2013 establishing the Ministry with responsibilities including Climate Change Adaptation & DRR issues.

In 2015, the Ministry of Climate Change Adaptation (MCCA), Meteorology and Geo-Hazards, Energy, Environment and National Disasters Management Office (NDMO) released the Ministry's Policy in draft. Although this is yet to be approved by the Council of Ministers, the MCCA Policy (draft 2015) clearly advocates improving the legislative framework for NDMO:

> *"2.6*
>
> *At the national level the NDMO has primary responsibility for disaster response coordination under the National Disaster Act 2000. A review of the legislation is proposed to be undertaken in 2015 to ensure the nation has a strong legislative basis for its institutional arrangements, undertaking disaster risk reduction functions, and executing powers in the contemporary risk and policy environment. Alignment with this Policy will also be a key objective of the review process.*

7.1.2 Strategy: Legislation and Policy Frameworks

The National Disaster Act 2000 and Meteorology Act 1989 provide powers and functions for key agencies, NDMO and VMGD. In addition, Article 69 of the Constitution of Vanuatu provides for a declaration of a state of emergency during war or natural calamity, to prevent a threat to or to restore public order. In the Public Finance and Economic Management Act 1998 provision is made for the Minister with the prior approval of the Council of Ministers to draw down public funds to alleviate an emergency where an Appropriation Act cannot be passed by the Parliament within a reasonable time.

Given developments internationally, regionally and locally in the governance and disaster risk contexts, and the emergence of global warming and climate change as key policy

challenges, it is crucial that Vanuatu's legislation is reviewed and updated in line with contemporary practice.

Work has been undertaken on a draft Meteorological and Geological Hazards and Climate Change Bill proposed to replace the existing meteorology legislation and include climate services and a geo-hazards context. In reviewing the current disaster and meteorology legislation, and in developing new legislation, consistency with the Constitution and existing legislation must be considered.

Implementation of this (MCCA) Policy and revised legislation should also align with the Decentralization Act where provincial governments and area councils play key roles in risk governance at the community level."

Excerpt 2015 Draft MCCA Policy

Recent experiences from the institutional and operational arrangements during Tropical Cyclone Pam response highlighted several lessons, issues and challenges in coordination, communication that can be addressed through legislative reform, putting community resilience at the forefront of future Government program.

About this Annual Report

This report outlines major developments and initiatives carried out by the National Disaster Management Office in 2014.

Reporting Requirements

Business Planning is a requirement from the Public Service Commission for all institutions to provide on an annual basis.

Reporting Processes

This document comprises of a collection of reports submitted by heads of different Divisions within the National Disaster Management Office (NDMO) and compiled by the Director. These reports should be against the 2014 Business Plan as required by PSC through the Director General's office of the Ministry of Climate Change Adaptation, Meteorology, Geo-Hazards, Energy, Environment and Disaster Management. However, it must be noted that due to staff transfers, under-resourcing and workload, the Business Planning process was poor. However, this gap was recognized and rectified for the 2015 Business Planning cycle, increasing NDMO capacity to plan and budget responsibly.

SECTION TWO - PERFORMANCE 2014

Department Performance Overview

The following reports by the officers responsible for each activity area will provide details of the Departments Performance.

Achievements Comment

The results in 2014 were obtained through support of staff, donors and MCCA Corporate services Unit.

At this point a special Thank you should go to our donor partners whose continued support underpins the work of NDMO.

Training continued to improve capacity and wherever possible, attendance at regional and international conferences provided opportunities for further institutional capacity building, networking and establishing peer relationships.

Challenges Comment

Staffing and an inadequate budget continue to limit NDMOs effectiveness and outreach. With stronger planning and budgeting through the development of a Strategic Plan and through a Restructure it is hoped DMO will become a stronger institution.

Staffing

The following tables provide information about staffing of the National Disaster Management Office (NDMO) in 2014.

Staffing	Details
Numbers:	Total staff 8 – Permanent [X8, Contract (Project Funded) = 8
Performance Appraisals Conducted	Bi-Annual
Study Leave:	None
Secondment:	None
Annual Administration Leave:	Total number of staff taking Administration Leave 0
Other Leave/Resignation/Retirement:	None

Performance by Focal Areas

1. Directorate

Focal Area Purpose and Key Outcomes

The Directorate contributes to the Department's purpose to ensure the effective and efficient coordination of response to emergencies & disasters with Disaster Risk Reduction, Disaster Management and Climate Change Adaptation in Vanuatu; the development, implementation and management of staff, policies, projects, programs, reporting and other functions highlighted in the duties and responsibilities ensuring Cap 267 is effectively managed and implemented.

The key strategic outcomes for the Directorate are:

- Coordination of responses to emergencies and disasters pre and post the incident
- Implementation of the strategies and policies of the National Disaster Committee
- Manage aid in kind for disaster relief, using it for the purpose for which it was provided
- Coordinate & oversee disaster aid education programs for the community to provide disaster training
- Ensures that the Director General and Minister are well informed with accurate policy advice relating to the functions of the Department
- Facilitate and strengthen the linkages between the Department and various stakeholders

- Legislative and Policy Framework provides operational base for NDMO
- Planning and budgeting
- Promote professional administration of the NDMO through Staff Management

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2013 Business Plan and results are summarized in the table below and commentary provided in the following text.

Directorate (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✗	**Result Summary**
Continue to coordinate, collaborate and value NGOs and government line agencies dealing with DRR and DM	Strengthen network with VHT and line government departments in addressing DRR & DM	✓	On-going
Mainstreaming DRR into sector plan and policies	DRR included in sectoral plans and policies	✓	Increasing up-take across GoV as a result of Awareness & Training Programs
Review of NAP	Meetings and reviews	✓	Refer detailed PMU Report
Develop TOR for Task Force (technical) (NAB Committee)	Preparation of TOR	✓	Underway
Continued integration of DRR and CC through NAB and PMU	NAB Meetings	✓	NAB Meetings held – refer detailed PMU Report
	Combined DRR and CC Activities	✓	Refer detailed PMU Report
Project implementing partner for; MDRR (World Bank) IRCCNH (World Bank) Coping with resilience (UNDP)	MDRR – representation in TAG meeting	✓	On-going Refer Project Report following
	IRCCNH – Annual Program Agreement	✓	On-going Refer Project Report following
Conduct a Communication Risk Assessment	Communication Risk Assessment Established	✗	Defer to 2015

2. Operations

Focal Area Purpose and Key Outcomes

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Operations (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✗	**Result Summary**
Organizing/lead Logistic Cluster activities and Logistic planning	Document logistical activities for clusters under the NDMO	✓	Volunteer has been recruited to undertake the task. Several meetings has been conducted by logistic cluster last year 2014
Monitor staff performance	Monitoring reports	✗	This activity could not be undertaken due to lack of proper Human resource officer available for the Ministry. This happens when the NDMO office was transfer out from the Internal Affairs to Ministry of Climate Change.
Restructure NDMO	Review and Revise	✓	The office managed to recruit four Provincial Disaster Officers under the two pilot projects. IRCCNH the world bank project that has funded two officers for Tafea and Torba. The PRRP project from UNDP that has funding two other PDO from Malampa and SANMA. Despite, the process of the recruitment the overall NDMO structure needs to be formalizing by the PSC. In order to capture the new provincial positions.
Review NDMO Act	Review, revise and amend	✓	Currently under pipe- line to be funded by IRCCNH project
Establishment of Provincial Disaster Offices	Decentralize Disaster Offices to Provinces	✓	All the documents have been completed for TORBA & TAFEA provincial Disaster Office.
Six Monthly reports	Reports of activities produced	✗	Not produce – move to 2015
Work Plans	Quarterly review	✗	Quarterly review could be under taken if the reports are not produce by individual staffs
Cluster Meetings	Monthly Meeting of Clusters	✓	This activity is coordinated by the VHT (Vanuatu Humanitarian Partners). I participate with other clusters meeting especially Education and Logistic. The other Cluster are designated other NDMO staffs.
Supply of logistics materials and equipment for operation center	Installation of equipment in NDOC / NEOC	✓	NEOC is now fully equipped with proper equipment's funded under MDRR project

Operations (Additional Activities)			
Activity	**Performance Indicators**	**Result** ✓✗	**Result Summary**
Lead and coordinate Emergency or Disaster Response	Number of events /emergency coordinated	✓	Coordinating Paama flash flooding from November 2013 until early recovery January 2014 Prima and Teouma River flash flooding March 2014
Member of executive committee for MDRR Project **Assist the project Coordinator for IRCCNH project**	Participate in the Executive meeting for MDRR project Participate on the implementation of the IRCCNH project	✓	Evaluate the BECCA consultant group inception report the under taking the Urban and greater Port Vila and Luganville risk assessment project Lead the Tafea Provincial Office consultation group and participate in other implementation workshops

1. TORBA and TAFEA Provincial Disaster Office Land Consultation

Both Torba and Tafea project sites has been secured for the project to commence by 2015. All claimants have agreed that both Sola and Isangel land are dedicated for the provincial government. They all agreed that the land was initially allocated during the colony era until; it was tend officially declared during the independents Era as a government administration Centre's.

Therefore, the difference between different sub-tribe and claimants will not cause any hindrance for the projects to continue. All claimants verbally agreed for the development to continue as formally agreed by their grandparents and the same understanding applies for all generation to come. They vow to uphold the agreement and sign the formal agreement between the Provincial government and NDMO office.

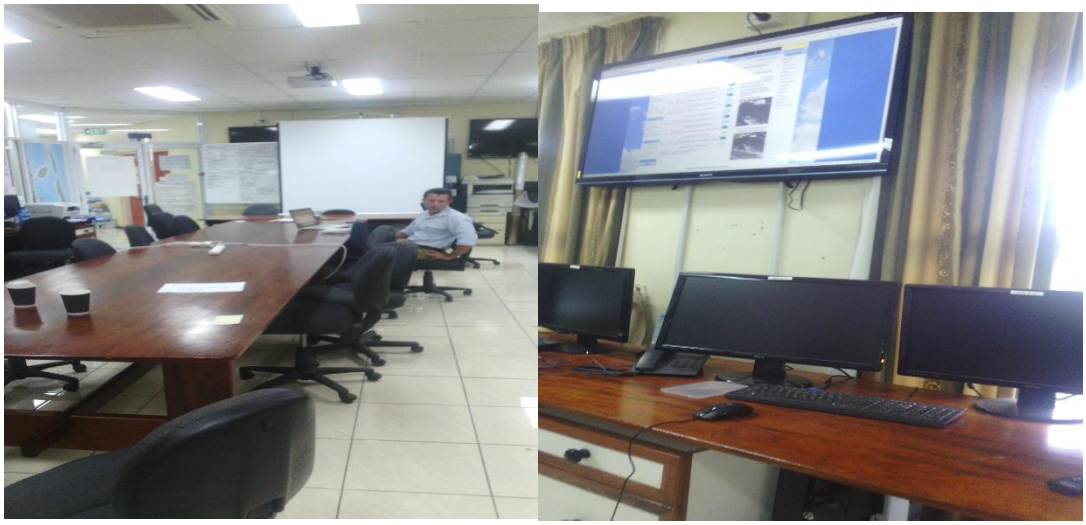
A proposed site was selected based on the preliminary Environmental Assessment carried by the multi-sectorial deployment to the selected Sites:

(Photo 1: by: Kamil, P.K (2014); Tafea Provincial Council Headquarter)

(Photo 2: by Kamil, P K. (2015); Torba Provincial TAG members)

2. National Emergency Operation Centre

National Emergency Operation Centre was fully equipped by furniture's and Equipment's early 2014 with the financial support from both the EF10 funding and MDRR Project from World Bank. The operation is currently operational during emergencies.



(Photo 3: by Kamil P K. (2015); NEOC)

3. Lead and coordinate Emergency or Disaster Response

NDMO responded to several events commencing from 2013 until 2014. From October (12:00hr) 23th 2013 a torrential rain has cause a flash flooding, mudflow and several landslides across the Paama Island. The effected population was recorded to be around 643 people (Distribution Report, 2013) approximately 41 percent of the overall total population for the island.

(Photo 4: by Kamil P K. (October 2013) ; Debris from affected houses)

The National response was activated and track until early 2014 for early recovery phase. Main sectors mostly affected are Education, WASH and Basic Infrastructure. Food and Agriculture was partially affected in diverse location where the community was highly vulnerable and expose to landslides, flash flooding and mudflow. During the same of period of time we did also response to Tanna Volcanic Eruption in November until December 2013. Its Recovery plan formulation and discussion track on until February 2014. Total affected population for this Area was around 4,174 people with the total household of 657 (2013, statistic).

(Photo 5: by Kamil P K. (November 2013); Affected Traditional building and Water Melon.

At the end of 2014, NDMO responded to flash flooding and river flooding from Teouma and Prima settlement. The total affected population for these two severely affected Areas was around 1,461 people with a total number of 305 household's altogether.

(Photo 6: by Kamil P K. (2014), Flooding from Prima and Debris from TEOUMA River.

3. Research and Planning

Focal Area Purpose and Key Outcomes

Research and Planning contributes to the Department's purpose by coordinating and conducting research on disaster planning activities with all designated response agencies in the development or review of agency plans and procedures. The planning officer should also contribute to the annual review of the National disaster response arrangements and develop recommended models for improvement. The Research and Planning duties are well listed in the NDMO SOP for review.

The key strategic outcomes for Research and Planning are:

- Have the key organization of activities required by the department to be undertaken on time and on stand-by.
- Have all maps are available to be used anytime when required

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Research and Planning (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✘	**Result Summary**
Finalize the DRM & Land Tenure System	Planning Policy available	✓	The DRM is to be made by the DRM officer, the planning officer is here to review it. insert summary of items that demonstrate objective/targets have been achieved or explain why they were not achieved]
Develop Earthquake National Support Plan	Plan available	✓	Working closely with the VMDG
Develop Volcanic National support Plan	Plan available	✘	Not yet available
Review Tsunami National Support Plan	Plan available	✓	Senior Research & Planning officer Review plan made available to all stakeholders & Tsunami working group
Volcanic evacuation Contingency plan	Plan available	✓	Contingency developed and implemented by stakeholders Developing Volcanic contingency plan in Ambyrm,Tanna and review Gaua and Ambae People are resilient against volcanic impact
Set up Logistic baseline data	Availability of information	✓	Organize survey with other logistic cluster members to update the LCA
Community profiling baseline data	Availability of information	✓	Building the capacity for vulnerable community how to cope with extreme weathers and natural disasters
Setting up provincial multi-baseline data	Availability of information	✘	tbc
Support Tsunami Early warning System setting up for urban areas.	Availability of Early – warning system	✓	Reviewing the existing Tsunami National Support Plan with key agencies
Involving in community resilient and coping	Communities and islands covered under the program	✘	tbc

strategies (UNDP Project) as NDMO representative.			
Review existing Hazards support plans – Cyclone, Tsunami , Earthquakes, volcano and National Disaster Plan	Effective and up to date availability of information	✓	Update the existing information alongside the VMGD
Identify relocation site for Volcanic Hazards prone Islands	Safe land availability	✓	Contingency Plans
Develop Economic Impact assessment using the current software to capture loss and damage value of a disaster	Availability of information to assess loss and damage to property		On-going
Develop Community Standard Disaster Plan	Establish Standard Community Disaster Plan		SOP develop in consultation with all PDC stakeholders to enable effective and coherent coordination

4. Awareness and Training

As the year progresses, NDMO hoped to upgrade and expand its roles and responsibilities from national to province and down to community level to properly manage disaster in the country. This does call for acquiring of new knowledge, skills and experiences through training of the current and incoming staff and conducting awareness on DRM to the communities at the provincial and national level.

The training needs identified and implemented last year was based on training needs identified during staff appraisals. All the training conducted aimed to ensure it best addresses the training needs and requirements of NDMO. The training is not earmarked mainly for NDMO staffs. Indeed, volunteers attached to NDMO including staff members from Government Line Agencies and Vanuatu Humanitarian Team members and Non-Government Organizations, are equally eligible to participate in the training program. NDMO will even second their nomination to attend the training as part of its approach to involve **ALL** in training as well as involve **ALL** in managing disaster threats. A disaster can only be well managed and its outcome being successful if everyone knows what everyone is doing and have a common understanding on DRM.

Focal Area Purpose and Key Outcomes

Awareness and Training contributes to the Department's purpose by

- Promoting safer, securer and community resilience through awareness and training programs; and
- Inform community on hazards and risk for safer development planning program

The key strategic outcomes for Awareness and Training are:

- Increase and ensure quality and productivity of work at workplaces
- Increase number of awareness and training conducted on DRR and DRM
- Increase of skills, experience and knowledge on disaster risk management
- Facilitate development and organizational changes in disaster management
- Increase in staff motivation and ability to perform well.
- More responsible and knowledgeable on service delivery and expected outcomes
- Better work coordination and networking among our potential partners

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Awareness and Training (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✗	**Result Summary**
Capacity building on DRR and DM	Training of staff in DRR and DM	✓	
Develop propose plan for Training of Trainers Manual on DM & DRR	Training of Trainers Manual	✓	Plan has been developed, unfortunately no funding for the implementation
Establish training and awareness data base	Inventory of types of training & awareness database	X	Not yet
Undertake awareness activities	Meetings and visits	✓	On-going
Develop advocacy and educational messages through posters, leaflets, T-shirts, stickers and bill boards	Meetings, designs and records	✓	We have developed advocacy messages and IEC materials but no funding for printing
Internal and External trainings for NDMO staffs base on their training needs	Types of training and attendance	✓	Training has been conducted based on training needs identified during 2013 staff appraisal
Prepare the provincial government agencies capacity to monitor and advice on DRR & DM in the Provincial Level.	Training of GLAs and PHT on DRR & DM	✓	The training on DRR and DRM has been conducted in the provincial level with provincial representatives
Contact a DRR & DM training to PDC's and CDCs	Training of DRR & DM to PDCs and CDCs implemented	✓	NDMO together with VTH we conducted few training with PDC and CDC on DRM and DRR
Develop Training Module for UNDP TOT	Established Training Modules	✓	The training Module was developed together with UNDP representatives here in Vila
Training of Trainers Manual	Established manual for Trainers	X	Luck of funding to support the development of the training manual

Develop and Finalize DRM and DRM Training Module	Established module for training	✓	The training module is on the process, we have developed a draft but we still need to finalise
Organize Training in MAP Info for NDMO staffs	Training Conducted	X	Still need a funding to hire a technical person for this particular training

Awareness and Training (Additional Activities)			
Activity	**Performance Indicators**	**Result** ✓✘	**Result Summary**
Incident Command system Training	Training attendance and training report	✓	Training has been conducted on two provinces SHEFA and TORBA
Producing radio program and TV advert	60 radio program conducted on DRM and 30 TV spots	✓	DRM radio program conducted and produced TV spots on Cyclone preparedness
Conducted Simulation Exercise	Simulation exercise report and list of attendance	✓	Simulation exercise conducted in three 3 provinces Shefa, Torba and Sanma

Training and awareness Pictures

Simulation exercise, Testing Communication and Standard Operating Procedures

The training was held in Port Vila, from Monday 26th – Friday 30th January 2015, The four day training event was hosted at the Vanuatu Meteorology and Geo-Hazard Department [VMGD] Conference Room and one [1] day Simex Exercise was held at the National Operations Centre (EOC) and chaired by the NDMO director, Mr. Shadrack Welegtabit. Seventeen participants were from the NDMO, VMGD, VHT, Government Cluster leads, Humanitarian co-leads and NGOs.

The course was successful in training all participants in national disaster management operations, focusing on the role of the EOC both before and after a major disaster. The exercise successfully demonstrated the critical link and information dependencies between the National Emergency Operation Centre, NDMO, the cluster system and the provincial Emergency Operation Centre during a major disaster event

Sanma Provincial Training & Exercise Participants – Oct 2014.

To train NDMO staff, cluster-lead and co-lead agency representatives, in the functions and operations of the National Emergency Operations centre (NEOC).

Training Objectives

- To learn the newly developed communications protocols between the early warning centre and the NDMO
- To know the NDMO structures during response and peace time
- To establish a common understanding of NDMO procedures during emergencies
- To be able to identify and explain different roles and responsibilities in the national disaster emergency operation centre.
- To equip participants with appropriate skills and knowledge in responding to future events.

The aim of the training was to strengthen the provincial disaster response network, including the provincial emergency operations centres (PEOC), through training and the practice of a timely, effective and well-coordinated response to a rapid onset disaster effecting Sanma Province

5. Provincial Liaison

Focal Area Purpose and Key Outcomes

Provincial Liaison contributes to the Department's purpose by providing linkages and coordination of Disaster Risk Management (DRM) regarding disaster programs and activities between national government, the provincial government and community level, especially through Provincial Disaster Officer team.

The key strategic outcomes for Provincial Liaison are:

- Resourcing, reporting & planning for Provincial Liaison activities
- Establish an effective and reliable communication channel between the provincial governments, communities and national government
- Assist in developing disaster strategies & plans for the implementation of the PDCs and CDCs
- Coordinate work of provincial donor funded initiatives
- Support Provincial Disaster Committees
- Facilitate the development of provincial and community risk management plans & arrangements
- Supervision & co-ordination of Provincial Disaster Officers

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Provincial Liaison (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✘	**Result Summary**
Set up and Coordinate Provincial Disaster Committees	Meetings and visits to provinces	✓	Established but require on-going support & training
Establishment of Provincial Disaster Offices	Lands, materials labor and buildings	✘	Planned for 2016 & 2017 – dependent on funding Confirmed for Toba & Tafea
Coordinate with the Production of Provincial Disaster Management plan	Document plans for the provinces	✘	Some are in draft
Establish good communication links at national, provincial and community levels	Setting up of a good communication system at national, provincial and community levels	✓	On-going
Streamline Messages given to the community by GLAs and NGO's	precise messages developed on warnings and evacuation for disasters	✓	Underway with NGOs
Assist with the formation of Provincial Disaster Committees	There are Committees in each Provincial Government	✓	Complete
Prepare the PGLAs capacity to monitor and advice on DRR & DM in the Provincial Level.	Mapping of DRR & DM resources revised.	✓	Underway but needs further resourcing
Recruitment of Provincial Disaster Coordinators	Disaster Officers recruited	✓	Four recruited and funded by donors. New NDMO structure will seek to put officers in a permanent GoV position
Set up of Area Council Disaster Committees	Area Council Disaster Committees established		
Set up and coordinate Community Disaster Committees	CDCs established	✘	tbc
Update CDCs contact list	List of CDCs	✓	Kept on Excel Spread Sheet

6. Disaster Risk Reduction

Focal Area Purpose and Key Outcomes

Disaster Risk Reduction contributes to the Department's purpose by coordinating with NAB and implement the Disaster Risk Reduction Programs and activities at national, provincial and community levels

The key strategic outcomes for Disaster Risk Reduction are:

- Coordinate and implement Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) programs with line government departments and partner agencies (Including VHRT members)
- Support the coordination and development of hazard mitigation plans at national, provincial and community levels
- Promote and encourage the application of appropriate DRR and CCA tools and technologies for use by all line departments & VHT members
- Assist with the monitoring and evaluation of DRR and CCA work of line government agencies, VHT members and CC consortiums in the development of CDCCCs and resilience projects
- Provide mentoring support and technical advice on DRR, DRM, and CCA to key partners at national, provincial and community levels
- In times of emergency undertake activities as defined in Standard Operating Procedures (SOP)

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Disaster Risk Reduction (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✘	**Result Summary**
Document information on traditional knowledge and practices on coping with hazards	Document on traditional knowledge & practices	✘	NDMO do not have funding for this activity, Meteo has secure a funding from the Bureau of meteorology Australia to support this activities.
Document food preservation for every island regarding disaster	Document on food preservation	✘	No funding
Collaborate with NGOs to ensure consistent messages relating to DRR	MOA and strong working relationship	✓	DRR working group meets monthly to create documents/ templates to standardise information and awareness Links to the NAB endorsement process
Putting together a package on how / what information CDCs should have / learn	Document a manual on "what to know" by CDCs	✓	Manual in progress with elements developed; CDC roles and responsibilities CDC registration form CDC participant selection criteria

			Communication Tree Community profile Standard DRR and DRM messages Reviewed Initial assessment form NGO Step by step introduction into communities
Target 3 islands to do DRR activities & monitor NGOs work on CDCs setting	Regular visits and establishment of committees to oversee DRR activities on the islands	✓	Ongoing monitoring via CCDRR working group Monitoring trip to Torba with red cross Work with PDO for reporting on CDC and new registration
Coordinates DRR activities among partners	Continued strengthening of DRR activities	✓	CCDRR working group Supporting work with Provincial officers Collaboration with NGO's
Monitoring and Evaluation of CDC's	Monitoring and evaluation implemented	✓	Ongoing monitoring via CCDRR working group Monitoring trip to Torba with red cross Work with PDO for reporting on CDC and new registration
Develop standardize message materials	DRR message standardizing	✓	Work with NGO's to use approved standard messages into posters, flyers, games and banners for use into the communities
Develop standardized template for traditional knowledge	Template established	✓	An excel database developed to collect traditional knowledge and practices
Information communication strategy working group	Communication materials established	✓	Working group established, further strengthening required Standard messages developed
Finance and stakeholder Mapping	Finance and stakeholder mapping established	✓	Completed 2013 with NAB PMU
Working Group - MOU VMGD/ NDMO roles	Establish MOU with DRR implementing partners	✓	Working group established MDRR project to fund the technical advisor and development of SOP's for NDMO and VMGD Clarification of DRR/CC Officer PMU and Senior DRR officer NDMO

Disaster Risk Reduction (Additional Activities)			
Activity	**Performance Indicators**	**Result** ✓ ✘	**Result Summary**
PDO establishment in 6 Provinces	Recruitment of PDO	✓	Supporting the NDMO with the recruitment process of all provincial disaster officers especially the two in TOrba and Tafea
Response to Cyclone Lusi	Planning and intelligence	✓	Collection of data and assessments Prioritization of information for response Assessment leader
Response to Yasur Volcano Tanna	Planning and Intelligence	✓	Collection of data and assessments Prioritization of information for response Support response from Vila NEOC

7. Communication

Focal Area Purpose and Key Outcomes

Communication contributes to the Department's purpose by supporting and maintaining an effective public information and training program utilising ICT applications to ensure maximum public understanding and awareness of disaster prevention, preparedness, mitigation, response, recovery and rehabilitation. Support the National Disaster Management Office in the communication, collection, processing, interpretation and dissemination of information to provide a co-ordinated emergency response through analysis and decision making arrived at by strengthened collection, processing, interpretation and dissemination of information at the internal and cluster levels

The key strategic outcomes for Communication are:

- Advocacy and Outreach Plan for NDMO's emergency response activities
- The development and production of communication products for NDMO-led response activities (e.g. organization of press conferences/briefings or field visits success/beneficiary stories for print and web, leaflets, brochures, presentations, speaking points, executive briefs, posters, etc.), including the drafting/reviewing of texts and the overseeing of the design, printing and distribution process;
- Effective communications for Vanuatu National Emergency Operations Centre (NEOC)
- Improved ICT based emergency response & preparedness
- Establish and maintain direct contact with the relevant Government, NGO, UN, media and private sector organizations involved with disaster management, in order to assess their emergency preparedness and response capacity and strengthen synergies;
- Develop an Information Policy and Strategy for handling public information through ICT based methods in the aftermath of an emergency or disaster;

- Using ICT based products disseminate press releases, news items, periodic news conference and media opportunities as appropriate or as directed, and maintain/develop a partnership with local and regional media;

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Communication (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✗	**Result Summary**
Implement the Cell Broadcast project as a key disaster warning and information dissemination tool.	Cell Broadcast center setup at NDMO/VMGD with access into mobile operator CB channels	✗	No funding
Pre-Recorded Message system with Voice recorded Radio Messages and written Email messages used as an alerting and information dissemination tool.	Voice recorded messages distributed to Radio operators and system set up to manage the dissemination of voice and email.	✓	Completed and in use
HF Audit and GIS Mapping of Operational HF Radios in Vanuatu	Geographic Information System established	✓	Commenced but requires on-going support and input
Draft and develop a standardized 'Emergency Communications Manuel' to be used by NDMO and line agencies in NDOC	Standardized communication of emergency information guideline established	✓	Completed but requires annual review and up-dating
Identify and acquire communications hardware and equipment to support NDOC information dissemination and collection operations	Communications hardware and equipment identified and acquired	✓	Completed for NEOC
Manage and implement a short code, toll free number for the NDOC	Short code and toll free number established	✓	166 number operational but technical issues with providers Interchange, Digicel & TVL
Establish and improve communication links at the national, provincial and community	Inventory of types of communication available in the islands	✓	On-going

Develop a communications strategic plan	Communication strategic plan	✘	
Formalize relationships and develop MOUs with key communications stakeholders	MOUs developed	✓✘	Radio Vanuatu MOU signed, others in development
Improve NDMO links engagement with key communications stakeholders	NDMO joins (1) National Emergency Response Group & (2) ICT Development Committee	✓	On-going
Undertake a national, provincial and community level 'key actor audit' to identify key people involved in DRR, develop into a 'key actor network'	Communication audit	✘	Not done
Establish an Contact List of Key actors involved in Emergency Communications	Emergency Contact List	✓	Needs regular up-dating
Identify and implement appropriate software platforms and information management systems to support NDMO information dissemination and data collection	FERN system implemented for Information Management	✘	Commenced but issues with funding availability for installation, annual fees and up-dating
Assess and develop mechanisms for promoting proactive communication of disaster impact information from the community level	Proactive communication mechanisms developed (E.g. Reporting Wheel & Short Code)	✓✘	Developed but not utilised Requires funding for training
Develop NDMO internal communications capacity through a regularly used electronic staff calendar	Electronic staff calendar established	✘	
Oversee the establishment of a Windows OS operated NDMO server to integrate NDMO database, website and IM platforms	Windows OS operated server & website established	✘	

Launch an NDMO website with appropriate DRR IEC information	NDMO website established for education information	✓	Initial development but linkage issues

8. Vanuatu Humanitarian Team

Focal Area Purpose and Key Outcomes

Vanuatu Humanitarian Team contributes to the Department's purpose by improving coordination ad mobilization of response initiatives

The key strategic outcomes are:

- In partnership with PDOs, conduct simulation training provided to CDCs
- Develop Provincial Disaster Committee Plan for Torba & Tafea
- Provide ongoing support to clusters and the National & Provincial level
- Development of the PDC SO
- Conduct Emergency Training for NDMO Staff, PCs and Area Council Secretaries
- Conduct DRM Training to NDMO PDOs, PDCs ZCAs and PEO
- Standard DRM Package developed, endorsed by NDMO & NAB
- Develop Specific disaster support plan for clusters and cluster SOP,
- Conduct Bi-Monthly VHT Meeting and minuted report

2014 Priority Activities and Results

Activity and Performance Indicators required by the 2014 Business Plan and results are summarized in the table below and commentary provided in the following text.

Vanuatu Humanitarian Team (Business Plan)			
Activity	**Performance Indicators**	**Result** ✓ ✗	**Result Summary**
Support the Set up of Provincial Disaster Committees in sanma, penama, malampa, provinces	PDCs established with roles and responsibilities and basic coordination plans for emergency relief items and VHT members at provincial level	✓	Been established, require on-going support & training CDC establishment: 108 Community Disaster Committees established & training delivered Shefa x 1 Sanma X 8 Penama X 11 Torba X 38 Tafea X 47 Malampa X 3
Provide ongoing support to existing PDCs	PDCs have SOP's Provincial based disaster response plans	✓	On-going
Support for the NDMO and VHT members to develop guidelines for CDC development	CDC guidelines developed for other agencies to use in the creation of new CDCs in the provinces	✓	On-going Refer to DRR Report

Development of VHT guidelines	VHT guidelines developed for other NDMO's in the Pacific to use and apply to their own country context.	✘	
Provide ongoing support to clusters at national level	Clusters are functioning with TORs, action plans and meeting regularly	✓✘	On-going All Clusters have TORs. Some Clusters not meeting regularly
Strengthen the role of clusters at the provincial level	Cluster Members identified at provincial level PDCs have cluster representatives	✓	On-going
Support the NDMO to conduct the simulation exercise – at National and in Torba and Tafea Province	Simulations test the functions of the NEOC, Assessment team , NDMO and VHT members in an emergency	✓	On-going
Support for the NDMO to review the rapid and community assessment forms and develop an assessment methodology	Standards for rapid and community assessments methodology developed	✓	On-going
Support for the NDMO , Cluster lead and co-lead agencies to develop coordinated needs assessments	Standards for inter-agency assessments developed. In line with international humanitarian standards and models of best practice.	✓	On-going Sector Needs Forms developed

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Financial Statements

Ministry of Climate Change & Adaptation

Details of the 2014 Financial Statement from the Ministry of Climate Change & Adaptation are attached in the appendix.

They are divided into the following categories:

1. Statement of Appropriations
2. 2014 Budget Expenditure Report
3. 2014 Revenue Collection Report

Statement of Appropriations

For transactions between January 2014 and 31 December 2014

Ministry	M20 - Ministry of Climate Change, Meteorology, Geo-hazards, Energy, Environment & Disaster Management								
Code	**Description**	**Original Appropriation**	**Supplementary Appropriations**	**Virements**	**Final Budget**	**Actual Expenditure**	**Commitments**	**Total Expenditure**	**Under/Over**
M20	**Ministry of Climate Change**								
MGA	**Ministerial Cabinet Support**								
86AA	Cabinet Operations	23,971,642	-	16,626,789	40,598,431	42,449,512	-	42,449,512	-1,851,081
MGAA	**Portfolio Coordination**	**23,971,642**	**-**	**16,626,789**	**40,598,431**	**42,449,512**	**-**	**42,449,512**	**-1,851,081**
MGA	Ministerial Cabinet Support	23,971,642	-	16,626,789	40,598,431	42,449,512	-	42,449,512	-1,851,081
MGB	**Executive Management & Corporate Services**								
86AA	Cabinet Operations	-	-	-	-	-	-	-	-
75DA	Office of the Director General	13,656,238	-	-13,656,238	-	-	-	-	-
MGBA	**Director General and Corporate Services**	**13,656,238**	**-**	**-13,656,238**	**-**	**-**	**-**	**-**	**-**
MGB	Executive Management & Corporate Services	13,656,238	-	-13,656,238	-	-	-	-	-
MGC	**Vanuatu Meteorological Services**								

75DA	Meteorological Services	139,928,307	-	- 2,697,551	137,230,756	135,595,329	- 7,000	135,588,329	1,642,427
75DB	E-Government	-	-	-	-	-	-	-	-
75DC	Weather Forecasting & Monitoring	138,811,307	-	- 2,697,551	136,113,756	134,488,245	- 7,000	134,481,245	1,632,511
75DD	Geo-Hazard	1,117,000	-	-	1,117,000	1,107,084	-	1,107,084	9,916
75DE	ICT-Engineering	-	-	-	-	-	-	-	-
75DF	Climate Section	-	-	-	-	-	-	-	-
75DG	Observation Section	-	-	-	-	-	-	-	-
MGCA	**Meteorological Services Operations**	**279,856,614**	**-**	**- 5,395,102**	**274,461,512**	**271,190,658**	**- 14,000**	**271,176,658**	**3,284,854**
MGC	Vanuatu Meteorological Services	279,856,614	-	5,395,102	274,461,512	271,190,658	- 14,000	271,176,658	3,284,854
MGD	**Energy Department**								
6301	Energy Operations	12,829,785	-	-	12,829,785	12,763,828	-	12,763,828	65,957
MGDA	**Energy Management & Assessment**	**12,829,785**	**-**	**-**	**12,829,785**	**12,763,828**	**-**	**12,763,828**	**65,957**
MGD	Energy Department	12,829,785	-	-	12,829,785	12,763,828	-	12,763,828	65,957
MGE	**Environment Department**								
6401	Environment Operations	20,173,849	-	- 100,000	20,073,849	20,398,941	-	20,398,941	- 325,092

MGEA	**Environmental Management, Research & Extension Services**	**20,173,849**	**-**	**- 100,000**	**20,073,849**	**20,398,941**	**-**	**20,398,941**	**- 325,092**
MGE	Environment Department	20,173,849	-	- 100,000	20,073,849	20,398,941	-	20,398,941	- 325,092
MGF	**National Disaster Management Office**								
1701	National Disaster Management Office Operations	24,424,224	31,116,218	- 173,000	55,367,442	47,596,653	-	47,596,653	7,770,789
MGFA	**National Disaster Management**	**24,424,224**	**31,116,218**	**- 173,000**	**55,367,442**	**47,596,653**	**-**	**47,596,653**	**7,770,789**
MGF	National Disaster Management Office	24,424,224	31,116,218	- 173,000	55,367,442	47,596,653	-	47,596,653	7,770,789

Expenses Detail Report

GOVERNMENT OF VANUATU

For transactions between January 2014 and 31 December 2014

MINISTRY OF CLIMATE CHANGE, METEOROLOGY, GEO-HAZARDS, ENERGY, ENVIRONMENT & DISASTER MANAGEMENT

Dept Code All

		Total Annual Budget	Total Annual Expenses	Balance (under/over)
MGA	**Ministerial Cabinet Support**			
MGAA	**Portfolio Coordination**			
86AA	**Cabinet Operations**			
	Personnel Emoluments			
	Salaries and wages	23,049,655	22,409,950	639,705
	Allowances	0	10,809,555	- 10,809,555
	Employer Contributions	921,987	1,080,715	- 158,728
	Payroll Expenses	1,449,422	-	1,449,422
	Other Goods & Services	0	5,953,033	- 5,953,033
	Capital Expenditure	0	2,196,259	- 2,196,259
	Overhead Expenses	15,177,367	-	15,177,367
Total Activity		40,598,431	42,449,512	- 1,851,081
Total Program		40,598,431	42,449,512	- 1,851,081

VANUATU METEOROLOGICAL SERVICES

	Executive Management & Corporate				
MGB	**Services**				
MGBA	**Director General & Corporate Services**				
75DA	**Office of the Director General**				
	Personnel Emoluments				
	Salaries and wages		97,375,200	84,388,089	12,987,111
	Allowances		20,182,566	12,161,095	8,021,471
	Employer Contributions		4,048,306	3,389,698	658,608
	Payroll Expenses	-	23,513,832	-	- 23,513,832
	Other Goods & Services		22,217,770	29,311,257	- 7,093,487
	Capital Expenditure		4,045,977	745,097	3,300,880
	Overhead Expenses		7,160,043	-	7,160,043
	Commitments		-	66,100	- 66,100
Total Activity			131,516,030	130,061,336	1,454,694
Total Program			131,516,030	130,061,336	1,454,694

	Total Annual Budget	Total Annual Expenses	Balance (under/over)

MGD	**Energy Department**					
MGDA	**Energy Management & Development**					
6301	**Energy Unit - Petroleum**					
	Personnel Emoluments					
	Salaries and wages	8,573,040		7,843,602		729,438
	Allowances	1,502,260		821,668		680,592
	Employer Contributions	355,029		314,678		40,351
	Other Goods & Services	2,017,587		3,591,175	-	1,573,588
	Capital Expenditure		381,869	192,705		189,164
Total Activity		12,829,785		12,763,828		65,957
Total Program		12,829,785		12,763,828		65,957

MGD	**Energy Department**					
MGDA	**Energy Management & Development**					
6302	**Energy Unit - Electricity**					
	Personnel Emoluments					
	Salaries and wages	-		-		-
	Allowances	-		-		-
	Employer Contributions	-		-		-

	Other Goods & Services	-	-	-
	Capital Expenditure	-	-	-
Total Activity		-	-	-
Total Program		-	-	-

MGD Energy Department
MGDA Energy Management & Development
6303 Energy Unit - Mines & Minerals

	Personnel Emoluments			
	Salaries and wages	-	-	-
	Allowances	-	-	-
	Employer Contributions	-	-	-
	Other Goods & Services	-	-	-
	Capital Expenditure	-	-	-
Total Activity		-	-	-
Total Program		-	-	-

		Total Annual Budget	Total Annual Expenses	Balance (under/over)
MGE	**Environment Department**			

MGEA	**Management, Research & Extension Services**				
6401	**Environment Operations**				
	Personnel Emoluments				
	Salaries and wages	14,958,720	15,841,438	-	882,718
	Allowances	2,672,400	2,284,117		388,283
	Employer Contributions	625,487	558,484		67,003
	Payroll Expenses	100,000	-	-	100,000
	Other Goods & Services	1,643,343	1,714,902	-	71,559
	Capital Expenditure	273,899	-		273,899
Total Activity		20,073,849	20,398,941	-	325,092
Total Program		20,073,849	20,398,941	-	325,092

		Total Annual Budget	Total Annual Expenses	Balance (under/over)
MGF	**National Disaster Management Office**			
MGFA	**NDMO Coordination**			
1701	**NDMO Operations**			
	Personnel Emoluments			
	Salaries and wages	13,312,720	10,019,985	3,292,735

	Allowances	3,067,320	1,724,833		1,342,487
	Employer Contributions	561,867	407,092		154,775
	Payroll Expenses	- 2,818,000	-	-	2,818,000
Other Goods & Services		7,482,317	11,163,079	-	3,680,762
Capital Expenditure		0	24,281,664	-	24,281,664
Overhead Expenses		33,761,218	-		33,761,218
Total Activity		55,367,442	47,596,653		7,770,789
Total Program		55,367,442	47,596,653		7,770,789

Revenue Summary Report

For transactions between January 2014 and 31 December 2014

M20 - MINISTRY OF CLIMATE CHANGE, METEOROLOGY, GEO-HAZARDS, ENERGY, ENVIRONMENT & DISASTER MANAGEMENT

Account	Description	Revenue	Budget	Over/Under	Cash Received
	Revenue				
7NFO	Other Fees	4,123,603	-	- 4,123,603	4,435,803
7NOO	Other Recoveries	3,044,572	5,000,000	1,955,428	3,397,472
7NOP	Permits Recoveries	395,327	300,000	- 95,327	528,217
7TLP	Prospector Licences & Registration	-	25,000,000	25,000,000	-
	Operating Revenue	7,563,502	30,300,000	22,736,498	8,361,492
	Total Revenue & Capital Receipts	7,563,502	30,300,000	22,736,498	8,361,492

Government of the Republic of Vanuatu

2014 Annual Report

Vanuatu Meteorology & Geo-Hazards Department

Energy Department

Environmental Protection & Conservation Department

National Disaster Management Office