Mission Report

Strengthening Environmental Management Tools for Effective Decision Making in Vanuatu

Geographic Information Systems (GIS) and Data Management Training

June 24 to 28, 2024
Shefa Cooperative Conference Room, Port Vila, Vanuatu

SPREP
Secretariat of the Pacific Regional Environment Programme

Table of Contents

TRAINING ON GEOGRAPHIC INFORMATION SYSTEMS (GIS) AND DATA MANAGEMENT

Date: 24 to 28 June 2024
Venue: SHEFA COOPERATIVE CONFERENCE ROOM, PORT VILA, VANUATU

Mission Team:

1. Ms. Kasaqa Tora Spatial Analysis Specialist Protected Areas
2. Ms. Vani Koroisamanunu, Environmental GIS Specialist
3. Mr. Tavita Su'a – Pacific Environment Portal System Developer & Analyst

Travel Target: Geographic Information System (GIS) Training.

1 Background

Geographic Information Systems (GIS) play a pivotal role in modern environmental management and conservation efforts, offering a powerful framework for data management, analysis, and decision-making. By integrating spatial information with environmental and socio-economic data, GIS provides a comprehensive understanding of social-ecological systems, facilitating more effective sustainable development strategies and empowering policy makers to make informed decisions.

Through the integration of spatial data, GIS facilitates precise mapping and analysis of socio-economics and ecosystems and empowers individuals to map biodiversity hotspots, monitor habitat changes and biodiversity, track land use changes, assess climate change impact, and human impacts on habitats. This technology empowers decision-makers with actionable insights, facilitating the development of targeted sustainable development strategies and sustainable resource management practices. It also enhances collaboration among stakeholders by providing a common platform for data sharing and visualization.

Promoting GIS awareness and capacity in the Environment sector is integral to the success of environmentally friendly sustainable development initiatives, providing a versatile toolkit for data analysis, visualization, and decision-making in the ever-evolving field of environmental management. The ability to visualize, analyse, and share spatial data enables precise resource allocation, targeted conservation initiatives, and collaboration among stakeholders.

In the broader context, GIS skills are vital in the environmental sector, enabling professionals to conduct spatial analysis, manage natural resources, and conserve biodiversity. These skills contribute to informed decision-making, compli-

ance monitoring, and effective communication for sustainable environmental management and conservation. GIS serves as an asset for environmentalists, assisting in the conservation of biodiversity, the management of resources sustainably, and the safeguarding of ecosystems for the well-being of future generations.

2 Introduction

The Secretariat of the Pacific Regional Environment Program (SPREP) through the Environmental Monitoring and Governance (EMG) and Islands and Oceans Ecosystems (IOE) program facilitated a one-week GIS training in Vanuatu. The training was conducted with the support of the Climate Information Services for Resilient Development Planning in Vanuatu (VanKIRAP) and By-catch and Integrated Ecosystem Management (BIEM) initiative with participants from various stakeholders both from government and the private sectors.

This undertaking was a request from both projects on the need to equip their key agencies staff with technical skills, that enables them to provide tangible GIS outputs for each sector that are represented at this training. The training was delivered on the first week as part of a two-week national training on 'Strengthening Environmental Management Tools for Effective Decision Making in Vanuatu'.

Given that the level of GIS understanding is low to medium, the training equipped government staff with the basic GIS skills to assist their work in terms of basic data capture and mapping. This initiative aims to enhance the skills of key stakeholders in Vanuatu to effectively manage and better understand data and output to inform better planning for key government agencies and departments.

The GIS training program was designed to provide comprehensive training and awareness of GIS principles and techniques. Through hands-on exercises and practical demonstrations, participants will learn to utilize GIS tools for data capture, analysis, and reporting. Additionally, the program will focus on integrating GIS technology into the daily workflow of government departments, thereby improving decision-making processes and overall environmental management practices.

Furthermore, the training program also included sessions on the Pacific Environment Data Portal (PEDP) and Pacific Islands Protected Area Portal (PIPAP). These respective sessions serve as an awareness of the existing data and information platform where participants can access environment and protected areas data for Vanuatu.

The GIS training program aims to empower the government departments and its key partners with the skills and knowledge needed to effectively utilize GIS technology in their respective fields. This initiative is designed to enhance their capabilities in sustainable environmental management and climate resilience.

3 Main Objective(s)

The overarching objectives of the GIS training program were:

1. To enhance the capacity of national agencies, NGOs, CBOs, and environmental practitioners in Vanuatu to apply, GIS techniques, and environmental data management tools for the sustainable management and ecosystem-based adaptation of coastal, marine, and terrestrial ecosystems.
2. To strengthen skills in effectively utilizing GIS, and data management for ecosystem-based adaptation (EbA) to climate change, meteorology and biodiversity conservation, including monitoring and management of protected areas.
3. To (re)introduce the Vanuatu National Environment Data Portal platform, the Pacific Island Protected Area Portal (PIPAP) to promote their value for the collection, catalogue, analysis, and sharing of data.
4. To build expertise in leveraging, spatial analysis, and data systems to assess and mitigate impacts of development activities, such as infrastructure projects, and plastic pollution, on the environment and natural resources.
5. To foster collaboration and knowledge exchange among government agencies, NGOs, CBOs, and development partners, facilitating a coordinated and holistic approach to sustainable resource management, biodiversity conservation, meteorology and climate change adaptation in Vanuatu.
6. To introduce participants to regional and international best practices, guidelines, and tools for EbA, GIS, and environmental data management, aligning national capacities with global standards.

4 Outline of Activities

The training was co-organized by the VMGD, BIEM, the Pacific BioScapes and facilitated by the GIS team of SPREP.

The activities consist of: -

- PowerPoint presentations - where the theory of GIS and the applications of the QGIS software were presented.
- Hands-on-exercise - participants were then given the opportunities to attempt the exercises allowing them to explore on their own the basic tools for working with GIS data.
- Vanuatu Environment Data Portal – Overview of the Pacific Environment Portal (PEP), Setting up accounts for each participant and creating new datasets.

- Pacific Islands Protected Area Portal (PIPAP) - introductory session on how to search for information related to Protected Areas, Conservations at the National, Regional and Global Levels.

5 Outcomes

The training participants were guided on the basic tools for working with spatial data, all the participants were able to complete the hands-on exercise and produced basic maps, some of which are displayed in the appendix. These maps are evidence to demonstrate participants practical understanding to produce GIS outputs and its key elements.

All participants were awarded a certificate of participation Figure 2 at the conclusion of the training.

The use of data collection tools such as GPS devices and the Kobo collect was well received. The training participants had the opportunity to use the tools during the field exercise at the VanKIRAP weather radar site. The image below shows the mapped points and the approximate boundary of the Radar Site.

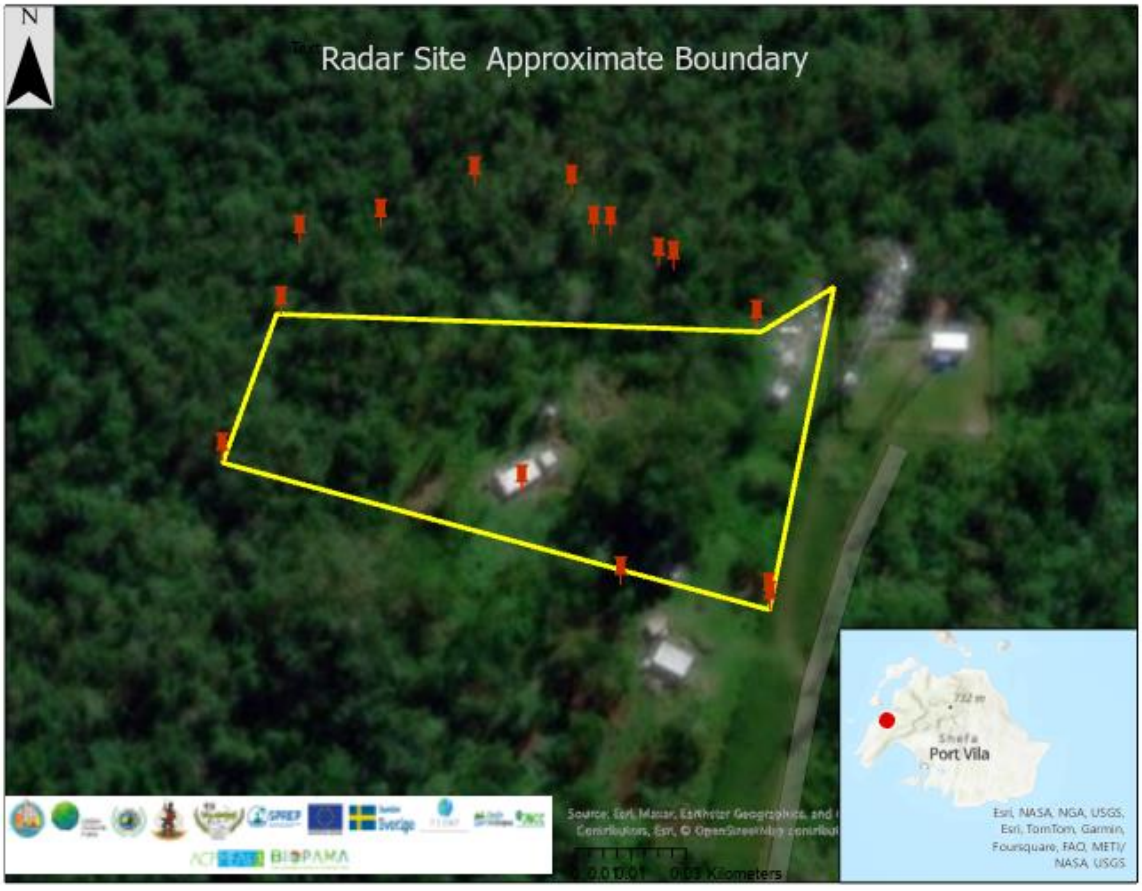


Figure 1: Map showing GPS points and Radar Site Boundary.

6 Evaluation

A post-workshop evaluation was shared with the participants after the training. Such feedback provides the team with useful guidance on areas and things to prepare for in future training. The evaluation questionnaire can be accesses here

Some of the responses received from the evaluation questionnaire are presented below:

- Participants expressed interest in advanced GIS training, particularly in spatial analysis and more complex features of QGIS. They suggested future training sessions be categorized into Basic, Intermediate, and Expert levels to accommodate varying skill sets and allow for deeper exploration of the tool.

- Participants recommended extending the training to 2-3 weeks to allow more time for completing practical activities and ensuring a thorough understanding before progressing to the next topic

6.1 Minuses

6.1.1 Training Hardware

The training venue was equipped with workstations; however, the desktop operating system was running on old operating systems, which were not fully compatible with the training software. The software could operate, but the interface seems different and slow in completing some tasks, unlike those running on updated operating systems.

6.2 Plusses

6.2.1 Participation and engagement

Participants demonstrated a high level of commitment by attending all sessions promptly. Their punctuality was commendable, contributing to a smooth and uninterrupted flow of the workshop activities.
Throughout the workshop, participants actively engaged in discussions and exercises. They asked insightful questions, shared relevant experiences, and contributed to group activities. This active participation not only enriched the learning environment but also facilitated knowledge sharing among peers.

6.2.2 Enthusiasm and motivation

The enthusiasm and motivation of the participants were evident in their approach to the workshop tasks. They showed a keen interest in learning new GIS concepts and techniques. This positive attitude was particularly noticeable during hands-on exercises, where participants eagerly applied the skills, they had learned The practical exercises were well-received, with participants effectively applying the theoretical knowledge to real-world scenarios. Their ability to transfer classroom learning to practical tasks demonstrated a solid grasp of the concepts taught.

6.2.3 Teamwork and Collaboration

Participants exhibited excellent teamwork and collaboration skills. They worked effectively in groups, supporting each other in problem-solving and project completion. This collaborative spirit was essential in creating a productive and inclusive workshop environment.

Participants demonstrated adaptability and resilience in addressing technical challenges that arose during the workshop. They were quick to seek solutions, whether by consulting with peers, asking facilitators for guidance, or exploring additional resources. This problem-solving approach highlighted their proactive learning attitude.

6.2.4 Overall course content

The evaluation feedback for the GIS training course reflects a highly positive experience among participants. Of the respondents, 75% were female and the majority rated their satisfaction as a 5 out of 5. All participants agreed that the course content met their expectations and found the practical exercises helpful in reinforcing the concepts.

The most valuable topics included data mapping and the use of KoBo Toolbox. Participants appreciated the balance between theory and hands-on practice, and 100% expressed confidence in applying the GIS skills they learned.

Additionally, there was unanimous interest in advanced GIS training and spatial analysis for future workshops, along with suggestions for improving the training, such as extending the duration, ensuring access to better equipment and internet, and giving clear instructions. All participants would recommend the course to colleagues

6.2.5 Overall evaluation summary

Overall, the one-week GIS workshop in Vanuatu was highly successful, marked by the participants' enthusiasm and active engagement. Most participants brought their own laptops. The team facilitated a smooth software installation and minimizing technical issues. The diverse group, including university students, interns, and government officers, benefitted from the well-structured sessions that progressed seamlessly from start to finish.

7 Follow-up Actions

In terms of the way forward, below is a list of activities that will be undertaken by the team:

Action	Expected Time Frames	Leads
Resource Sharing All softcopies of the PowerPoint presentations and the comprehensive training manual will be uploaded to a Google Drive folder. The link to this folder will be shared with all participants, ensuring everyone has access to the materials for future reference and practice.	August	EMG/GIS Team
Future Training Plans Ongoing discussions with key stakeholders in Vanuatu regarding a follow-up GIS training session.	Late quarter 2 2025, or	EMG/GIS Team
Kobo Toolbox Advanced Training Many participants expressed a strong interest in furthering their skills with the Kobo Toolbox platform. Recognizing the importance of this tool for field data collection, we are considering including an advanced session on Kobo Toolbox in the upcoming training. This will allow participants to gain hands-on experience with more sophisticated features of the tool.	Late quarter 2, 2025	EMG/GIS Team

8 Workshop Impact

The recent GIS workshop was a success. It provides a positive and productive experience for all the training participants. The training notably improved participants' GIS skills and confidence, which has been recognized as a key outcome. The success of this workshop has not only met its immediate goals but has also paved the way for future training opportunities, strengthening the capacity of GIS professionals in the region.

Participants found the range of topics and practical exercises particularly exciting, especially the opportunity to create their own maps. This hands-on approach reinforced learning and instilled a sense of accomplishment. Overall, the workshop provided a positive and productive experience, enhancing the GIS skills and confidence of all participants.

9 Next Steps

The SPREP GIS team will continue to work closely with the stakeholders to finalize the details of the follow-up training. As soon as these plans are finalised, we will communicate the specific dates, agenda, and any preparatory materials required for the participants.

10 Conclusions & Recommendations

In conclusion, the five-day multistakeholder GIS training not only achieved its primary objectives but also provided substantial value to all participants, irrespective of their initial skill levels. The combination of theoretical lectures and practical, hands-on exercises was particularly effective in bridging the gap between conceptual understanding and practical application. This approach ensured that participants not only learned about GIS tools in theory but also gained the confidence to apply these tools in real-world scenarios, which is essential for their professional growth and the effective implementation of GIS in their respective fields.

The diverse expertise levels of the participants presented a unique challenge, yet the training was able to foster a truly collaborative and inclusive environment. This inclusivity was one of the workshop's key strengths, allowing participants to learn from one another while working on group projects that simulated real-world GIS applications. The opportunity to create maps and delve into advanced software features, such as spatial analysis and data visualization, was particularly well-received. These activities not only enhanced the participants' technical skills but also sparked a deeper interest in exploring the full potential of GIS technology.

The positive feedback from participants is a testament to the workshop's effectiveness. It highlights the importance of such training sessions in empowering professionals across various sectors with the knowledge and skills needed to leverage GIS for decision-making and problem-solving. This feedback also underscores the necessity of continuing such training programs, as they are instrumental in building a strong foundation for the sustainable growth of GIS capabilities in the region.

Looking ahead, the recommendation to conduct future advanced GIS training in Vanuatu is both timely and strategic. As participants' skills continue to develop, there is a clear need for more complex training sessions that build on their existing knowledge. Tailoring these sessions to accommodate different levels of expertise will ensure that all participants can continue to progress at their own pace while addressing the specific challenges they face in their work.

Furthermore, ongoing engagement with stakeholders is crucial for the sustained success of these training initiatives. Establishing a structured evaluation mechanism will allow continuous improvement of the training content and delivery, ensuring it remains relevant and effective in meeting participants' evolving needs.

By maintaining this momentum and fostering a culture of continuous learning, future GIS training programs can significantly contribute to the advancement of GIS applications in the Pacific region, ultimately supporting broader environmental and developmental goals.

11 Acknowledgement(s)

The GIS and Data Management Workshop in Vanuatu proved to be a success, thanks to the support of the two Directors IOE, Mr. Stuart Chape and Director EMG. Mr. Jope Davetanivalu, and the combined efforts and backing of various entities and key contributors including:

- Vanuatu's government, namely the Vanuatu Meteorology and Geo-Hazards Department (VMGD) and the Department of Environmental Protection and Conservation (DEPC), provided essential leadership and organizational support.
- The Green Climate Fund (GCF) and VanKIRAP project, offering crucial financial, technical, and logistical assistance.
- The By-catch and Integrated Ecosystem Management (BIEM) Initiative of the Pacific-European Union Marine Partnership (PEUMP) Programme funded by the European Union and Swedish Government.
- The Pacific BioScapes, funded through the European Union.
- Various government agencies, NGOs, and private sector representatives for their active participation.

A heartfelt appreciation goes out to all attendees, whose dedication and enthusiasm were vital to the workshop's success and Vanuatu's sustainable development

12 Appendices

12.1Opening and closing speech delivered,
12,2 PowerPoint Presentations.
12.3 Sample certificate.
12.4 Maps prepared by participants
12.5 Attendance List each day.
12.6Pictures from the training and field data capture.

12.1 Opening and Closing Remarks -

12.1.1 Opening Remarks by Ms. Moirah Matou, Manager Van-KIRAP/CISRD Project,

Good morning, Talofa lava, Halo, and Bula Vinaka everyone.

A warm welcome to each of you as we gather here today for the training in GIS and Data Management. Thank you all for coming and for your availability here for this crucial training. We are delighted to see such a diverse group of participants here today, united by our shared interest in Geographic Information Systems.

Foremost, I wish to acknowledge the team who are here with us, from the Secretariat of the Pacific Regional Environment Program (SPREP) through the Environment Monitoring Governance (EMG) and Islands and Oceans Ecosystems (IOE) Programme who will be facilitating the Workshop this week.

Also, I am thankful to all our stakeholders who are represented here this morning, Tank yu Tumas for being here this morning and for this training in the next few days.

As we stand at the intersection of technology and decision-making, Geographic Information Systems (GIS) have become an indispensable tool across industries. Whether you are from government, private sector, academia, or non-profit organizations, GIS offers us a common language to understand and address complex spatial challenges.

This week's training explores the powerful capabilities of GIS technology and Data management, and its application across various fields through case studies and hands-on practical work. Whether you are involved in environmental management, urban planning, disaster response, or any other sector, GIS offers invaluable tools for visualizing and analyzing spatial data.

In addition to understanding GIS technology, the training will also focus on the crucial aspect of data management using online regional portals. These portals provide a collaborative platform for sharing, accessing, and managing spatial data, which is essential for making informed decisions and fostering regional cooperation in the pacific.

The workshop will aim to equip you with the skills and knowledge to effectively use GIS, data collection tools, and the country data portals in your respective areas of work.
I encourage you to actively participate, ask questions, and share your experiences.
This is a wonderful opportunity to learn from each other and to discover new ways GIS and data management can enhance your work in your different sectors.

In the next few days, I ask that we expand our knowledge, challenge our assumptions, and explore new possibilities with these tools. Now, let us get started and make the most of this learning experience!
Remember, the power of GIS lies not just in the technology itself, but in how we use it to understand our environment and make informed decisions for the future of our ni Vanuatu people.

Tank yu Tumas, Vinaka and Fa'afetai lava !!

Note: Delivered by Van-KIRAP Project Manager Moirah Matou

12.1.2 Closing Remarks by Acting Director, Vanuatu Geohazard and Meteorological Department (VMGD) Ms. Esther Saul

Good afternoon, Everyone,
To the SPREP Representatives and training facilitators for this week,
Ms. Kasaga Tora [SPREP Spatial Analyst]
Ms. Vani Koroisamanunu [SPREP Env GIS Specialist]
Mr Tavita Su'a [SPREP Systems Developer]
Participants from all sectors, Fisheries (VFD), DEPC, USP, NUV, VMGD, DoT present today.
I stand on behalf of the VMGD DEPT to say a few words in closing remarks for this week's training.
I believe that it is the right time, and about time for Vanuatu to venture deeper into local research and innovation and it needs everyone's effort from all departments/sectors. It is time we equip ourselves with tools and skills that will make us develop our research arms in all sectors. QGIS is one of such tools and I believe without a doubt that this week has been an eye opener for all the participants, in acquiring new technical skills to work with data, analyze data, and map out data. It is what we need in all sectors to convert data to a more meaningful format, for better decision making for Vanuatu.
I would like to thank SPREP for the collaborative efforts and strong partnerships with its member countries such as Vanuatu, thank you to the trainers for availing yourselves, and imparting your wisdom to everyone in the room this week. The outcome has been seen in the last two days of this week, where each participant was able present back what they have learnt very confidently.
This week's training is a beginners training module, and I am very proud of its success, therefore I would like to say that this will not be the last. I believe that

VMGD and all sectors in the room would agree to request SPREP support for the next level of training in the soon future.
May I also take this opportunity to thank the Van-KIRAP Team who have been organizing on ground logistics to make this training possible.
Before I conclude, I would also like to acknowledge Dept Cooperative who made this venue available for this week's training. and also, the funding support of Van-KIRAP project through (SPREP/GCF).
To end I would like to congratulate all participants who dedicated their full time this week to achieve with success. Please go back to your office desk and keep practicing and using what you have learnt this week.

With this, I say Vinaka, Talofa, and Tank yu Tumas.]

12.2 Presentations Delivered at the Training

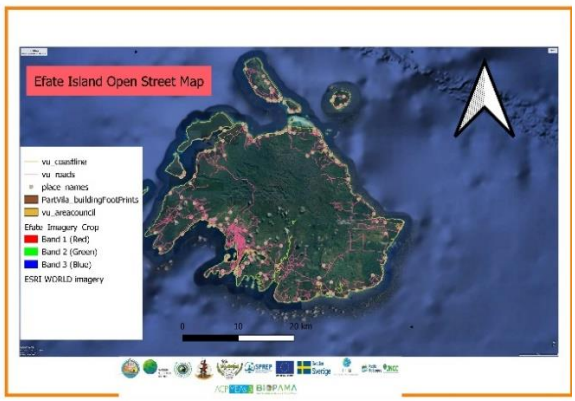
All the presentations, delivered at the training have been uploaded to the Google Drive below.

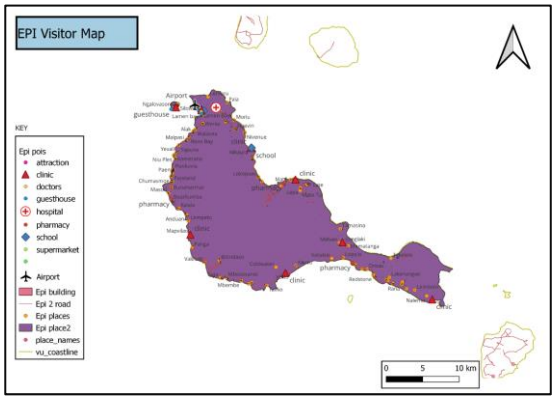
https://drive.google.com/drive/folders/1n7yeulNp69hnlcJ7AvGO-HkugC9O_G6la?usp=drive_link

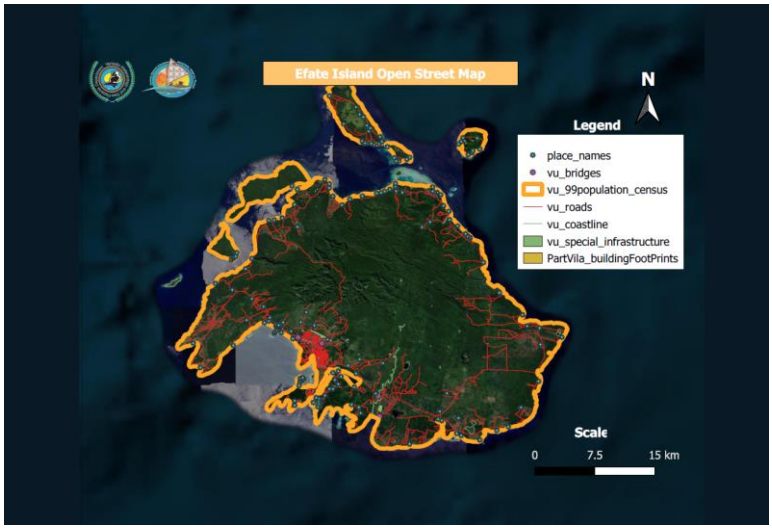
12.3 **Sample Certificates**

Figure 2: Sample certificate

12.4 Maps prepared by participants







12.5 Daily Attendance Register

Day 1 Monday 24 June 2024

GIS

& Data Management Training Agenda

Shefa Cooperative Conference Room, Port Vila, Vanuatu

Monday 24th June 2024

	NAMES	GENDER	DESIGNATION	ORGANISATION	EMAIL	SIGNATURE
1	Benjamen Hinge	M	Student	University of the South Pacific (USP)	hingebenja7@gmail.com	
2	~~Cecilia Louis~~ Cecilia Cavel Louis	F	Student	University of the South Pacific (USP)	ceceilialouis@gmail.com	
3	Francoise Iau	F	Student	University of the South Pacific (USP)	s11148528@student.usp.ac.fj	
4	John Mangau	M	Climate Officer	VMGD	jmangau@meteo.gov.vu	
5	Moirah Matou,	F	Project Manager	VanKIRAP, VMGD	mmatou@vanuatu.gov.vu	
6	Esther Saul,	F	Manager, ICT	VMGD	esaul@meteo.gov.vu	
7	Glenda Pakoa	F	Acting Manager Climate Services	VMGD	glendapakoa1@gmail.com	
8	John Ruben	M	Principal Climate Researcher	VMGD	jruben@meteo.gov.vu	
9	Joseph Worwor	M	Observations Officer	VMGD	jworwor@meteo.gov.vu	
10	Kalsuak Gorden		Vanuatu Rainfall Network Coordinator	VMGD	kgorden@meteo.gov.vu	
11	Brian Iarapia	M	VanKIRAP Intern	VanKIRAP, VMGD	iarapiabrian21@gmail.com	
12	Tiro Leo	M	Dept of Tourism	Dept of Tourism	tleo@trade-vanuatu.gov.vu	
13	Jennifer Joe	F	Dept of Tourism	Dept of Tourism	jjwmael@trade-vanuatu.gov.vu	
14	Nigel David	M	Acting Principal Scientific Officer, Observations	VMGD	davidn@vanuatu.gov.vu	
15	~~Freddy Obed~~ Freddy Obed	M	Dept of Tourism	Dept of Tourism	Fobed@trade-vanuatu.gov.vu	

12.5.1 **Day 2** Tuesday 25 June 2024

GIS & Data Management Training Agenda

Shefa Cooperative Conference Room, Port Vila, Vanuatu

Tuesday 25th June 2024

	NAMES	GENDER	DESIGNATION	ORGANISATION	EMAIL	SIGNATURE
1	Benjamen Hinge	M	Student	University of the South Pacific (USP)	hingebenja7@gmail.com	
2	~~Cecilia Louis~~ Caro| Cecelia Louis	F	Student	University of the South Pacific (USP)	ceceilialouis@gmail.com	
3	Francoise Iau	F	Student	University of the South Pacific (USP)	s11148528@student.usp.ac.fj	
4	John Mangau	M	Climate Officer	VMGD	jmangau@meteo.gov.vu	
5	Moirah Matou,	F	Project Manager	VanKIRAP, VMGD	mmatou@vanuatu.gov.vu	
6	Esther Saul,	F	Manager, ICT	VMGD	esaul@meteo.gov.vu	
7	Glenda Pakoa	F	Acting Manager Climate Services	VMGD	glendapakoa1@gmail.com	
8	John Ruben	M	Principal Climate Researcher	VMGD	jruben@meteo.gov.vu	
9	Joseph Worwor	M	Observations Officer	VMGD	jworwor@meteo.gov.vu	
10	Kalsuak Golden	M	Vanuatu Rainfall Network Coordinator	VMGD	kgorden@meteo.gov.vu	
11	Brian Iarapia	M	VanKIRAP Intern	VanKIRAP, VMGD	iarapiabrian21@gmail.com	
12	Tiro Leo	M	Dept of Tourism	Dept of Tourism	tleo@trade-vanuatu.gov.vu	
13	Jennifer Joe	F	Dept of Tourism	Dept of Tourism	jjwmael@trade-vanuatu.gov.vu	
	~~Hosea Lorinda~~	F	Apprentice	VMGD	lori	
	FREDDY OBED	M	Dept Tourism	Dept of Tourism	fobed94@gmail.com	
	William Worworkon	M	VMGD	VMGD	jwworwor@meteo.gov.vu	
	Ellen Luke	F	Forecast		eluke@meteo.gov.vu	
	[illegible]	M	DFDR			

12.5.2 **Day 3** Field Trip Wednesday 26 March

GIS & Data Management Training Agenda

Field Trip, Port Vila, Vanuatu

Wednesday 26th June 2024

	NAMES	GENDER	DESIGNATION	ORGANISATION	EMAIL	SIGNATURE
1	Benjamen Hinge	M	Student	University of the South Pacific (USP)	hingebenja7@gmail.com	
2	~~Cecilia Louis~~ Cecelia Louis	F	Student	University of the South Pacific (USP)	ceceilialouis@gmail.com	
3	Francoise Iau	F	Student	University of the South Pacific (USP)	s11148528@student.usp.ac.fj	
4	John Mangau	M	Climate Officer	VMGD	jmangau@meteo.gov.vu	
5	Moirah Matou,	F	Project Manager	VanKIRAP, VMGD	mmatou@vanuatu.gov.vu	
6	Esther Saul,	F	Manager, ICT	VMGD	esaul@meteo.gov.vu	
7	Glenda Pakoa	F	Acting Manager Climate Services	VMGD	glendapakoa1@gmail.com	
8	John Ruben	M	Principal Climate Researcher	VMGD	jruben@meteo.gov.vu	
9	Joseph Worwor	M	Observations Officer	VMGD	jworwor@meteo.gov.vu	
10	Kalsuak Gorden		Vanuatu Rainfall Network Coordinator	VMGD	kgorden@meteo.gov.vu Kalsuak.gorden@gmail.com	
11	Brian Iarapia	M	VanKIRAP Intern	VanKIRAP, VMGD	iarapiabrian21@gmail.com	
12	Tiro Leo	M	Dept of Tourism	Dept of Tourism	tleo@trade-vanuatu.gov.vu	
	Hosea Lorinda	F	~~SPREP~~ Apprentice Student	VFD	~~lorinw~~ lorinwaipa@gmail.com	
	Betsy Boedovo	F	~~Intern~~ Apprentice	VFD	betsyboedovo@gmail.com	
	William Worwor	M	PSO-Training & Community	VMGD	Wworwor@meteo.gov.vu	
	FREDDY ABEL	M		TOURISM		

14	Nigel David	M	Acting Principal Scientific Officer, Observations	VMGD	davidn@vanuatu.gov.vu	
15	Geraline Mawa Jevoline	F	Weather Observer, Observations Division	VMGD	jmawa@meteo.gov.vu	
16	Jayven Ham	M	Senior Fisheries Officer/VanKIRAP Fisheries Coordinator	Vanuatu Fisheries Dept	jham@fisheries.gov.vu	
17	Florida Tumulango		BIEM Project Comms team	Savvy Vanuatu Communications	florida@savvyvanuatu.com-	
18	Johnie Tarry Nimau	M	PARTneR Project Coordinator	Vanuatu National Disaster Management Office	johnie@vanuatu.gov.vu / tarijohnny@gmail.com	
19	Trevor Muerifar	M	Consultant	Live & Learn	trevor.muerifar@livelearn.org	
20	Catherine Malosu	F	EIA Consultant		catherine.malosu@gmail.com	
21	Winstan Jack	M	Digitisation Officer	Intern VanKIRAP	jackwinstan28@gmail.com	
22	Trinison Tari	M		DEPC	taritrinison@gmail.com	
23	Rolenas Baereleo	F		DEPC	rtavue@gmail.com / rbaereleo@vanuatu.gov.vu	
24	Connie Sewere	F	Project Technical Finance Assistant	Vanuatu CISRD	connies@sprep.org	
25	Sunny Seuseu	M	Project Manager	VanKIRAP	sunnys@sprep.org	
26	Kasaqa Tora	F	Spatial Analyst Specialist - Protected Area	SPREP	kasaqat@sprep.org	
27	Tavita Su'a	M	Pacific Environment Portal System Developer Analyst	SPREP	tavitas@sprep.org	
28	Vani Koroisamanunu	F	Environmental GIS Specialist	SPREP	vanik@sprep.org	
29	Nano Bule	M	Student	NUV	nanobule99@gmail.com	
30	J. Baptist Kalnpel	M	Student	NUV	jeanbaptist.kalnpel21@gmail.com	
31	Hosea Lorinda	F	Student	VFD	lorindalaiya2@gmail.com	
32	Betty Boedovo	F	Intern	VFD	bettyboedovo@gmail.com.	
33	Dean Wotholan	M	Acting Principal Officer	DEPC		

Day 4 Thursday 27 June 2024

GIS & Data Management Training Agenda

Shefa Cooperative Conference Room, Port Vila, Vanuatu

Thursday 27th June 2024

	NAMES	GENDER	DESIGNATION	ORGANISATION	EMAIL	SIGNATURE
1	Benjamen Hinge	M	Student	University of the South Pacific (USP)	hingebenja7@gmail.com	
2	~~Cecilia Louis~~ Cecilia Louis	F	Student	University of the South Pacific (USP)	ceceilialouis@gmail.com	
3	Francoise Iau	F	Student	University of the South Pacific (USP)	s11148528@student.usp.ac.fj	
4	John Mangau	M	Climate Officer	VMGD	jmangau@meteo.gov.vu	
5	Moirah Matou,	F	Project Manager	VanKIRAP, VMGD	mmatou@vanuatu.gov.vu	
6	Esther Saul,	F	Manager, ICT	VMGD	esaul@meteo.gov.vu	
7	Glenda Pakoa	F	Acting Manager Climate Services	VMGD	glendapakoa1@gmail.com	
8	John Ruben	M	Principal Climate Researcher	VMGD	jruben@meteo.gov.vu	
9	Joseph Worwor	M	Observations Officer	VMGD	jworwor@meteo.gov.vu	
10	Kalsuak Gorden		Vanuatu Rainfall Network Coordinator	VMGD	kgorden@meteo.gov.vu	

William Worworken M PSC Training & Community VMGD jworwor@meteo.gov.va

11	Brian Iarapia	M	VanKIRAP Intern	VanKIRAP, VMGD	iarapiabrian21@gmail.com	
12	Tiro Leo	M	Dept of Tourism	Dept of Tourism	tleo@trade-vanuatu.gov.vu	
13	Jennifer Joe	F	Dept of Tourism	Dept of Tourism	jjwmael@trade-vanuatu.gov.vu	
14	Nigel David	M	Acting Principal Scientific Officer, Observations	VMGD	davidn@vanuatu.gov.vu	
15	Geraline Mawa Jeeline	F	Weather Observer, Observations Division	VMGD	jmawa@meteo.gov.vu	
16	Jayven Ham	M	Senior Fisheries Officer/VanKIRAP Fisheries Coordinator	Vanuatu Fisheries Dept	jham@fisheries.gov.vu	
17	Florida Tumulango		BIEM Project Comms team	Savvy Vanuatu Communications	florida@savvyvanuatu.com-	
18	Johnie Tarry Nimau	M	PARTneR Project Coordinator	Vanuatu National Disaster Management Office	johnie@vanuatu.gov.vu / tarijohnny@gmail.com	
19	Trevor Muerifar	M	Consultant	Live & Learn	trevor.muerifar@livelearn.org	
20	Catherine Malosu	F	EIA Consultant		catherine.malosu@gmail.com	
21	Winstan Jack	M	Digitisation Officer	Intern VanKIRAP	jackwinstan28@gmail.com	
22	Trinison Tari	M		DEPC	taritrinison@gmail.com	
23	Rolenas Baereleo	F		DEPC	rtavue@gmail.com / rbaereleo@vanuatu.gov.vu	
24	Connie Sewere	F	Project Technical Finance Assistant	Vanuatu CISRD	connies@sprep.org	
25	Sunny Seuseu	M	Project Manager	VanKIRAP	sunnys@sprep.org	
26	Kasaqa Tora	F	Spatial Analyst Specialist - Protected Area	SPREP	kasaqat@sprep.org	

Tavita Su'a M SPREP

Ellen Luke F VMGD eluke@meteo.gov

12.5.3 Day 5 Friday 28 June

27	Tavita Su'a	M	Pacific Environment Portal System Developer Analyst	SPREP	tavitas@sprep.org	
28	Vani Koroisamanunu	F	Environmental GIS Specialist	SPREP	vanik@sprep.org	
29	Nano BULE	M	Student	NUV	nanobule89@gmail.com	
30	J. Baptist Kalnpel	M	Student	NUV	jeanbaptist.kalnpel21@gmail.com	
	FREDDY OBED	M	TOURISM		fobed@ fobed48@gmail.com	
32	LORINDA Hosea	F	Apprentice	A VFD	lorinwaiyoa@gmail.com	
33	BETSY BOEDOVO	F	Apprentice	VFD	betsyboedovo@gmail.com	

GIS & Data Management Training Agenda

Shefa Cooperative Conference Room, Port Vila, Vanuatu

Friday 28th June 2024

	NAMES	GENDER	DESIGNATION	ORGANISATION	EMAIL	SIGNATURE
1	Benjamen Hinge	M	Student	University of the South Pacific (USP)	hingebenja7@gmail.com	
2	Cecilia Louis	F	Student	University of the South Pacific (USP)	ceceilialouis@gmail.com	
3	Francoise Iau	F	Student	University of the South Pacific (USP)	s11148528@student.usp.ac.fj	
4	John Mangau	M	Climate Officer	VMGD	jmangau@meteo.gov.vu	
5	Moirah Matou,	F	Project Manager	VanKIRAP, VMGD	mmatou@vanuatu.gov.vu	
6	Esther Saul,	F	Manager, ICT	VMGD	esaul@meteo.gov.vu	
7	Glenda Pakoa	F	Acting Manager Climate Services	VMGD	glendapakoa1@gmail.com	
8	John Ruben	M	Principal Climate Researcher	VMGD	jruben@meteo.gov.vu	
	William Worwor	M	PSO-Training	VMGD	wbworwor@meteo.gov.vu	
	Ellen Luke	F	PSO Marine	VMGD	eluke@meteo.gov.vu	

9	Joseph Worwor	M	Observations Officer	VMGD	jworwor@meteo.gov.vu	
10	Kalsuak Gorden		Vanuatu Rainfall Network Coordinator	VMGD	kgorden@meteo.gov.vu	
11	Brian Iarapia	M	VanKIRAP Intern	VanKIRAP, VMGD	iarapiabrian21@gmail.com	
12	Tiro Leo	M	Dept of Tourism	Dept of Tourism	tleo@trade-vanuatu.gov.vu	
13	Jennifer Joe	F	Dept of Tourism	Dept of Tourism	jjwmael@trade-vanuatu.gov.vu	
14	Nigel David	M	Acting Principal Scientific Officer, Observations	VMGD	davidn@vanuatu.gov.vu	
15	Geraline Mawa	F	Weather Observer, Observations Division	VMGD	jmawa@meteo.gov.vu	
16	Jayven Ham	M	Senior Fisheries Officer/VanKIRAP Fisheries Coordinator	Vanuatu Fisheries Dept	jham@fisheries.gov.vu	
17	Florida Tumulango		BIEM Project Comms team	Savvy Vanuatu Communications	florida@savvyvanuatu.com-	
18	Johnie Tarry Nimau	M	PARTneR Project Coordinator	Vanuatu National Disaster Management Office	johnie@vanuatu.gov.vu / tarijohnny@gmail.com	
19	Trevor Muerifar	M	Consultant	Live & Learn	trevor.muerifar@livelearn.org	
20	Catherine Malosu	F	EIA Consultant		catherine.malosu@gmail.com	
21	Winstan Jack	M	Digitisation Officer	Intern VanKIRAP	jackwinstan28@gmail.com	
22	Trinison Tari	M		DEPC	taritrinison@gmail.com	
23	Rolenas Baereleo	F		DEPC	rtavue@gmail.com / rbaereleo@vanuatu.gov.vu	
24	Connie Sewere	F	Project Technical Finance Assistant	Vanuatu CISRD	connies@sprep.org	
25	Sunny Seuseu	M	Project Manager	VanKIRAP	sunnys@sprep.org	

13 Pictures from the GIS Training & Fieldwork

14 Agenda

Day 1: Monday 24th June 2024		
Time	**Agenda Items**	**Presenter**
8:30 am - 9:00 am	**Participant Registration**	SPREP
9:00 am - 9:10 am	**Prayer**	VanKIRAP
9:10 am - 9:20 am	**Opening Remarks**	DEPC
9: 20 am - 9:30 am	**Welcome Remarks**	VMGD/Van-KIRAP
9:30 am - 9:50 am	**Introduction and Review of the Program** **Key Objectives and Expected Outputs of the Training**	Vani - SPREP
9:55 am – 10:00 am	**GROUP PHOTO SESSION**	
10:00 am – 10:30 am	**MORNING TEA**	
10:30 am – 10:45 am	**Introduction of the Workshop** • Content of the Training • Training Modality • Field Work Component	Vani - SPREP
10:45 am – 11:30 am	**Ice breaker – Participants' Expectations** **Session 1: QGIS Set Up & Installation** • Download Software • Install QGIS on laptop • Open QGIS	Kasaqa - SPREP

11:30 am – 12:30pm	**Session 2: Introduction to GIS**
	• **What GIS**
	  ○ **Functions**
	  ○ **Five Components**
	
	***Hands-on Exercise 2* - Exploring GIS Software**
	• Introduction to GIS software (e.g., QGIS, ArcGIS).
	• Familiarization with the QGIS Application.
	• Basic navigation and interface exploration.
		Kasaqa - SPREP

12:30 – 1:30 pm	**LUNCH**	
1:30 pm – 3:00 pm	**Session 3: Spatial Data Sources and Types** • Introduction to various sources of spatial data.	Kasaqa - SPREP

	• Different types of spatial data (raster, vector). • Accessing Global Open-source datasets. ***Hands-on Exercise 3*** **- Importing and Managing Spatial Data** • Practical session on importing and managing. spatial data in GIS software. • Adding Global Open-source datasets. • Adding local datasets.	
3:00 – 3:30 pm	**AFTERNOON TEA**	
3:30 – 4:30 pm	**Session 4: Understanding Spatial Coordinates and Projections** • Overview of spatial coordinates (latitude, longitude). • Basics of map projections and coordinate systems. • Explore local map projections (pacific region). **Hands-On Exercise 4 - Working with Spatial Coordinates** • Practical exercises on handling spatial coordinates. Location of areas of interest in Samoa	Kasaqa - SPREP
SPREP Team debrief meeting		
Day 2: Tuesday 25th June 2024		
8:30 am - 10:00 am	**Opening Prayer** • Group allocation for the field visit site and confirm transport logistics provided. • Discussion on the agenda for the field visit and the sites identified. • Background of the selected sites to be provided to participants. **Session 5: Explore Data Attributes Table** • Importance of information on features of spayial datasets. • Interacting with features in an attribute table. - Selecting features - Filtering features • Editing attribute values. • Exploring features attributes through the Identify Tool. **Hands-On Exercise 5 - Exploring Attribute Table** • Practical exercises on exploring attributes of spatial data. • Explore local datasets.	Vani - SPREP
10:00 am – 10:30 am	**MORNING TEA**	

10:30 am – 12:30 pm	**Session 6: Introduction to Spatial Analysis** • Overview of spatial analysis techniques. • Applications in real-world scenarios - Case Studies. • Examples of summary statistics, data filtering, and data visualization. **Hands-On Exercise 6 - Spatial Analysis** *(i) Spatial Overlay* *(ii) Spatial Queries* • Practical exercises on basic spatial analysis techniques. • Explore global and local datasets. • Examples of summary statistics and data filtering. • Map - Data visualization.	Vani - SPREP
12:30 – 1:30 pm	**LUNCH**	
1:30 pm – 3:00 pm	**Session 7: Introduction to Spatial Analysis** • Overview of spatial analysis techniques. • Applications in real-world scenarios - Case Studies. • Examples of summary statistics, data filtering, and data visualization. **Hands-On Exercise 7 - Spatial Analysis** *(iii) Buffering* • Practical exercises on basic spatial analysis techniques. • Explore global and local datasets. Examples of summary statistics and data filtering	Vani - SPREP
3:00 – 3:30 pm	**AFTERNOON TEA**	
3:30 – 4:30 pm	**Session 8: Introduction to KoBo Toolbox** • What is KoBo Toolbox? • Why an Online/Mobile data collection tool? • KoBo Toolbox software installation. • Create a KoBo Toolbox account. • Application features. • Use cases and examples. **Hands-On Exercise 8** • Practical exercise on KoBo field data collection method. • Develop a simple questionnaire form using the mobile application. • Use KoBo Collect for field data collection • Extract and analyse the data collected in a different format. • Importing Kobo Toolbox data into spreadsheet software (e.g., Excel, Google Sheets).	Vani - SPREP

	Recap and Q&A	
SPREP Team debrief meeting		
Day 3: Wednesday 26th June 2024	**FIELD TRIP**	
9:00 am – 12:30 am	Field Site Visit	
12:30 – 1:30 pm	**LUNCH**	
2:00 pm – 4:00 pm	Field Site Visit	
SPREP Team debrief meeting		
Day 4: Thursday, 27th June 2024		
8:00 am - 10:00 am	**Opening Prayer** **Recap from Field Visit** **Session 9: Data Management** (Data Download) • Methods for exporting data from Kobo Toolbox. • Understanding data export formats (Excel, CSV, KML). • Basic data cleaning and organization techniques. **Hands-On Exercise 9 - Data Export** • Participants to export field data from Kobo Toolbox. • Participants to conduct basic field data cleaning and organization. • Creating effective visualizations and maps using GIS tools • Exporting maps in multiple formats	Vani - SPREP
10:00 am – 10:30 am	**MORNING TEA**	
10:30 am – 12:30 pm	**Session 10:** Vanuatu Environment Data Portal • Platform overview • Account setup • Dataset Exercise	Tavita - SPREP
12:30 – 1:30 pm	**LUNCH**	
1:30 pm – 3:00 pm	**Session 10:** Data Cataloguing and Data Tools • Uploading GIS datasets • Adding metadata • Modifying datasets • Useful data tools	Tavita - SPREP
3:00 – 3:30 pm	**AFTERNOON TEA**	
3:30 – 4:30 pm	**Session 11: Data Analysis** *Question - Determine the density of native/invasive tree species in the protected area (PA) site* **Practical Exercise 11**	Vani - SPREP

	• Overview of data analysis techniques. • Density analysis. • Examples of summary statistics and data filtering. • Map - Data visualization.	
SPREP Team debrief meeting		
Day 5: Friday 28th June 2024		
8:00 am - 10:00 am	**Opening Prayer** **Pacific Islands Protected Area Portal (PIPAP) over-view/Awareness.** **Session 12: Hands-On Group Exercise** *Scenario on Protected Area planning.* • Identify data to be used. • Overview of data analysis techniques used for the scenario. • Examples of summary statistics and data filtering.	Kasaqa – SPREP
10:00 am – 10:30 am	**MORNING TEA**	
10:30 am – 12:30 pm	**Session 13: Metadata and Reporting** • Document methods and technique • QGIS Metadata • Template	Vani - SPREP
12:30 – 1:30 pm	**LUNCH**	
1:30 pm – 3:00 pm	**Recap from the Exercises and Presentation** • Participant's understanding of the training. • Discussion on the mobile application tool used. • Creating effective visualizations and maps using GIS tools. • Map - Data visualization. • Exporting maps in multiple formats. **Training Survey Questionnaire**	SPREP Team
3:00 – 3:30 pm	**AFTERNOON TEA**	
3:30 – 4:30 pm	**Closing Remarks** **Presentation of Certificates**	DEPC SPREP team VanKIRAP Team
End of Training		