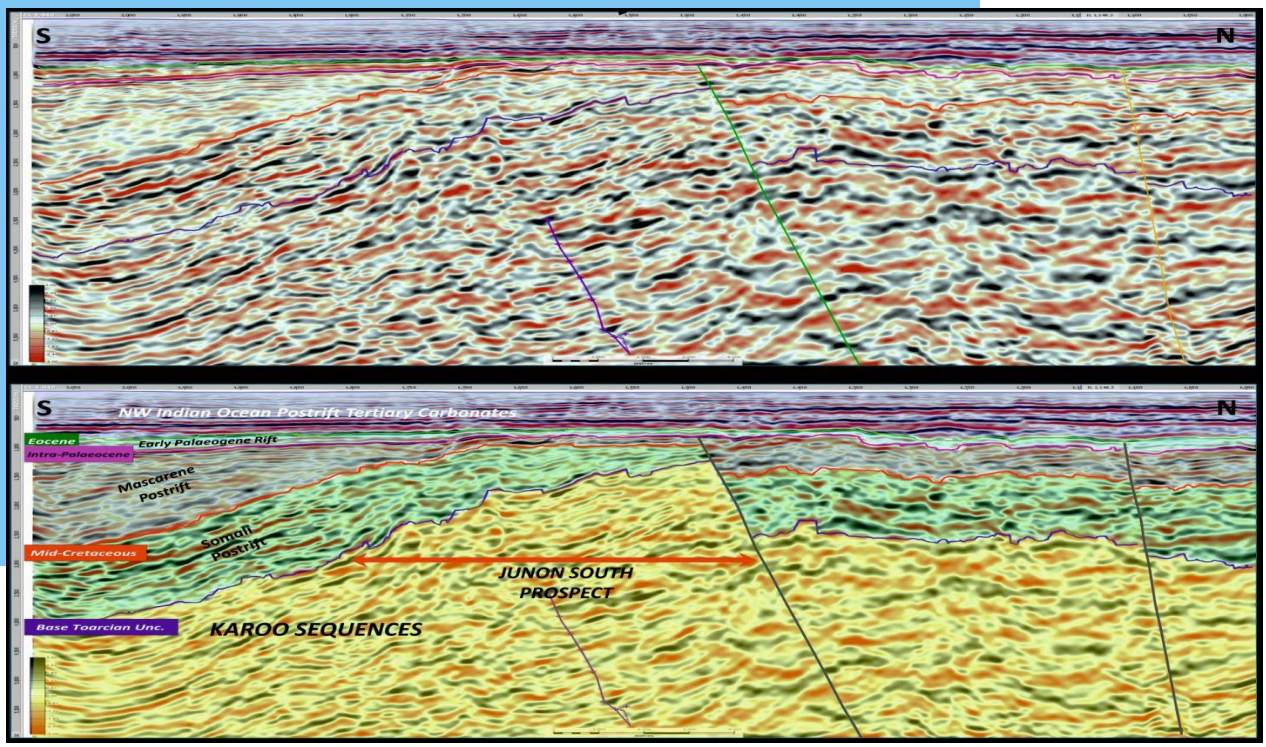

ANNUAL OPERATIONS REPORT 2020

PetroSeychelles

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INTRODUCTION

Under Section 36 of the Public Enterprise Monitoring Commission (PEMC) Act 2013, PetroSeychelles is required to submit an annual report on its operations to the Commission. This document presents a concise account of the PetroSeychelles operations for 2020 to fulfill this reporting obligation. Financial reports are submitted to PEMC monthly and so this report does not include such details.

The report has been structured under five main headings. Following this introductory section, a section on the Establishment documents the main administrative issues that have affected the company. This is followed by two sections documenting the core activities of PetroSeychelles namely Exploration activities and Promotion activities ending with a Collaboration section on the projects requiring geotechnical input, undertaken in collaboration with various Governmental Organisations.

2020 was marked by major geopolitical and medical events that caused high volatility in the price of crude oil. The energy transition to renewable sources, mainly due to climate hysteria also negatively affected investment in the oil and gas sector immensely. Also, the Covid 19 pandemic caused a global slowdown in air travel and thus an oversupply of oil products which caused a drastic drop in oil prices. All this meant that upstream oil and gas activities internationally dropped and this also affected the level of interest in the Seychelles offshore. The year was thus relatively slow activity-wise but PetroSeychelles still received and processed applications for the Junon area from two companies. Following due diligence and evaluation, Adamantine Energy was selected as the winning bid and negotiations started with the company for a petroleum agreement. Although travel was restricted for the most part of the year, PetroSeychelles managed to participate in one promotional campaign in London while also using digital channels to remain in the limelight.
Several ongoing and new non-core projects in collaboration with other partners were also started and/or completed during the year.

ESTABLISHMENT

This section of the report summarizes the main administrative activities and issues that have affected the company during 2020.

Staff Movement

- There were no staff movements during 2020

Training

PetroSeychelles values its human capital and places great importance on staff development and skills upgrading. Staff training is both encouraged and prescribed where necessary. During 2020 the following training programs were undertaken by some members of staff:

- **Information Officer**

  Training was organised in September 2020 by the Information Commission for the newly appointed Information Officer, Mr. Patrick Samson. The training was to enhance knowledge of the Access to Information act 2018 and address any issues encountered as an information officer. Following that, PetroSeychelles compiled and submitted the Access to Information Annual Report 2020 to the information commission at the end of the year.

- **In-house Training**

  During the year 2020 the senior Geologist Mr. Jean-Luc Mondon received training in Arc GIS software and the Kingdom Software. All data Petroseychelles has in its database is on the GIS system. This includes the 4 wells drilled, over 40 thousand line kilometres of Seismic, gravity and Magnetic data and the concession blocks under petroleum agreements. Geophysical data has also been entered in the KINGDOM software. Kingdom is used for the interpretation of geophysical data and the data is linked to a GIS system and offers an intuitive interface and user experience enabling asset teams to make confident and faster decisions from exploration to completion.

- **Internship at PetroSeychelles**

  Anastazia Pantazopoulou, a Seychellois first year undergraduate studying Geology at the University of Oxford had to extend her stay in Seychelles due to the COVID 19 situation in Europe in mid 2020. The student spent six weeks in our offices attached to the Senior Geologist Mr Jean-Luc Mondon. She was given several geological papers and reports to review, was given an introduction to seismic interpretation and other geophysical technics and the use of specific software used in the oil industry such as KINGDOM. She was taken round the island of Mahe on a Geological field trip to understand the formation of the island. At the end of her six weeks she had to give a presentation of what she had

learned about the Geological History of Seychelles to all the staff of PetroSeychells. The staff was impressed by what she had retained from her attachment and wished Ms Pantazopoulou all the best in her studies.

EXPLORATION ACTIVITIES

As mentioned in the introductory section, exploration activities worldwide slowed down due to the lack of investment capital caused by the drastic drop in the price of crude brought about by the Covid 19 pandemic, compounded by the worldwide campaign against fossil fuels. Although the 'doldrums' status remained throughout the year PetroSeychelles still managed to keep exploration activities alive in the EEZ albeit at a slower pace.

Licensing Status

Figure 1 below shows the licensing status at the start of the year. Two subsidiaries of Sub Saharan Resources Ltd (SSRL) held licenses. These were Sub Saharan Resources Limited Alpha, which held a Petroleum Agreement over SSRL Area A and Sub Saharan Resources Limited Beta, which held a Petroleum Agreement over SSRL Area B. Activities focused mainly around reprocessing and interpretation of 3D data to refine prospects in preparation for a drilling campaign. Throughout the year SSRL was also busy trying to secure new sources of funding to meet their agreement obligations since they had also been a victim of the downturn in the industry and lost their primary funding source.

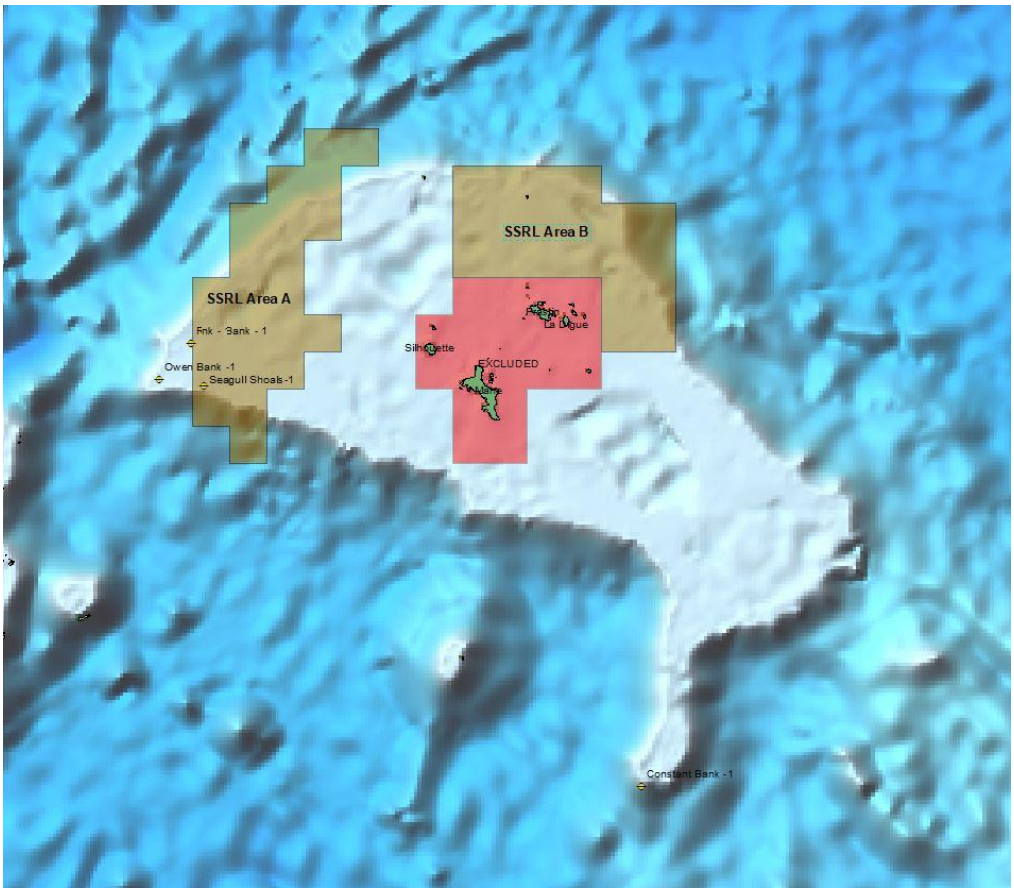


Figure 1. Licensing status at the start of 2020

By the end of the year the licensing status had not changed.

New Application for Petroleum Agreement

Although the industry remained in the doldrums, small companies still showed Interest in the oil and gas potential of Seychelles and two applications for petroleum agreements in the Junon area were received from Adamantine Energy and Pyxis Indian Ocean. Adamantine bid for an area of 7247 sq km while Pyxis Indian Ocean limited, a new small oil company based in Western Australia bid for Area A composed of 62 blocks with an area of 5284 sq km and area B composing 90 blocks with an area of 8,460 sq km. The application was registered on 24h April 2020 and due diligence was carried out on both companies. In October an evaluation committee was set up and Adamantine was selected as the winning company.

Summary of Adamantine and Pyxis Indian Ocean bids

	Adamantine	Pyxis Beau Vallon	Pyxis Junon
Total Exploration period cost (US$)	105 million	34.5 million	34.6 million
Period 1	25 million	2.5 million	2.6 million
Period 2	30 million	10.75 million	10.75 million
Period 3	50 million	21.25 million	21.25 million
Period for first well	Period 1	Period 3	Period 3
Number of well in 9 yrs	3 one in each period	1 only period 3	1 only period 3
Seismic experience	2D survey onshore	New Company	New company
Number of wells last 10 yrs	1	New company	New company
Seismic acquisition p1 2D	0	1000km	1500km
Seismic acquisition p2 3D	1000	1100km	1000km
Expected well cost	24.7, 24.65, 49.6	21.0m	21.0m
Size of application blocks	7247 sq.km	5284 sq.km	7997.51sq.km

Note: Adamantine is grouping both areas under one Petroleum Agreement since they are less than 10,000sq km.

Negotiations started with Adamantine in 2020 and at the end of the year were still ongoing but very advanced. It is expected that the new agreement will be signed in mid-2021 if the Covid situation does not cause further delays.

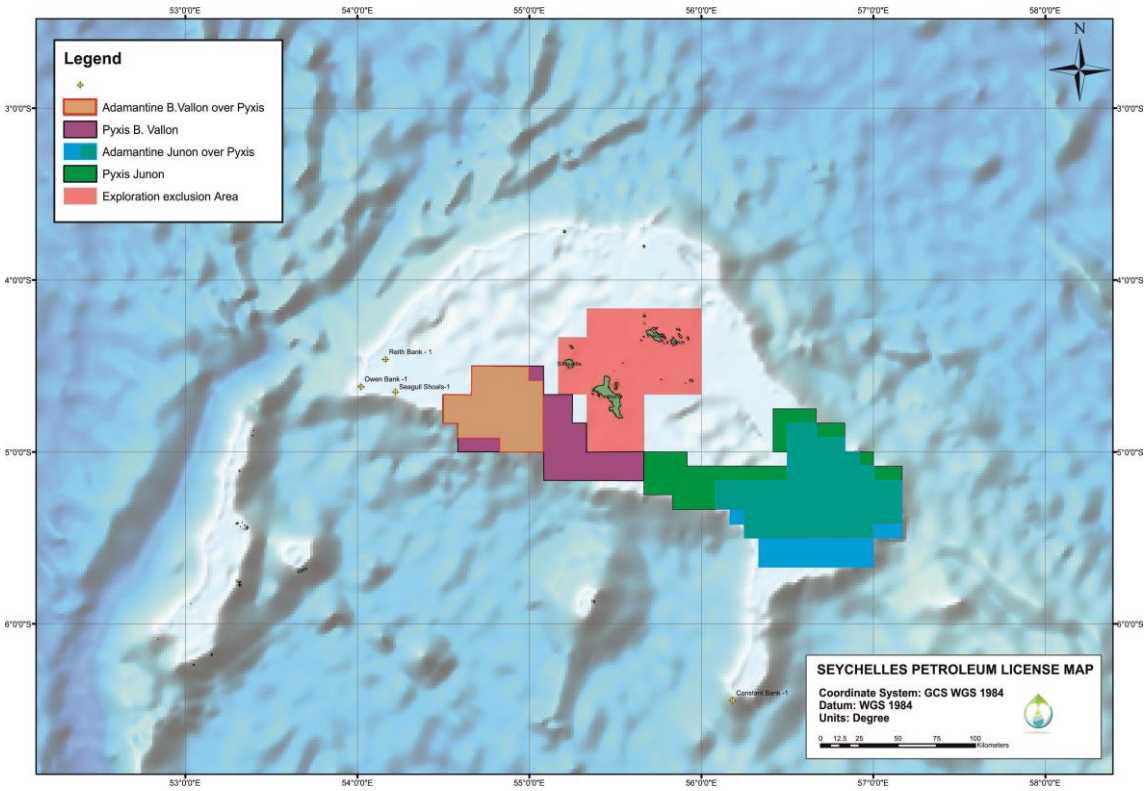


Figure 2. Adamantine and Pyxis application areas

CGG Multi-client seismic survey

PetroSeychelles understands the importance of having modern data to attract new investment in the EEZ and in 2020 continued to work with CGG to get the 2D regional multi-client survey underway. Although CGG did not manage to get the level of pre-commitment to allow the survey to take off in 2020, their marketing efforts continued. CGG will be acquiring regional seismic lines to link the geology of offshore Mozambique to Madagascar and up to the Seychelles. They are in the process of finalising the agreement with Madagascar and Mozambique and the Comoros.

CGG has already completed a scoping report and an Environment Impact Statement Assessment pertaining to the survey. These documents have been submitted to the Environment Impact Department of the Ministry of Environment since October 2020 and PetroSeychelles is awaiting their feedback. To move the project forward several meetings have been organized with the EIA department and the Minister for Fisheries and Blue Economy and to date feedback is still awaited to move the project forward.

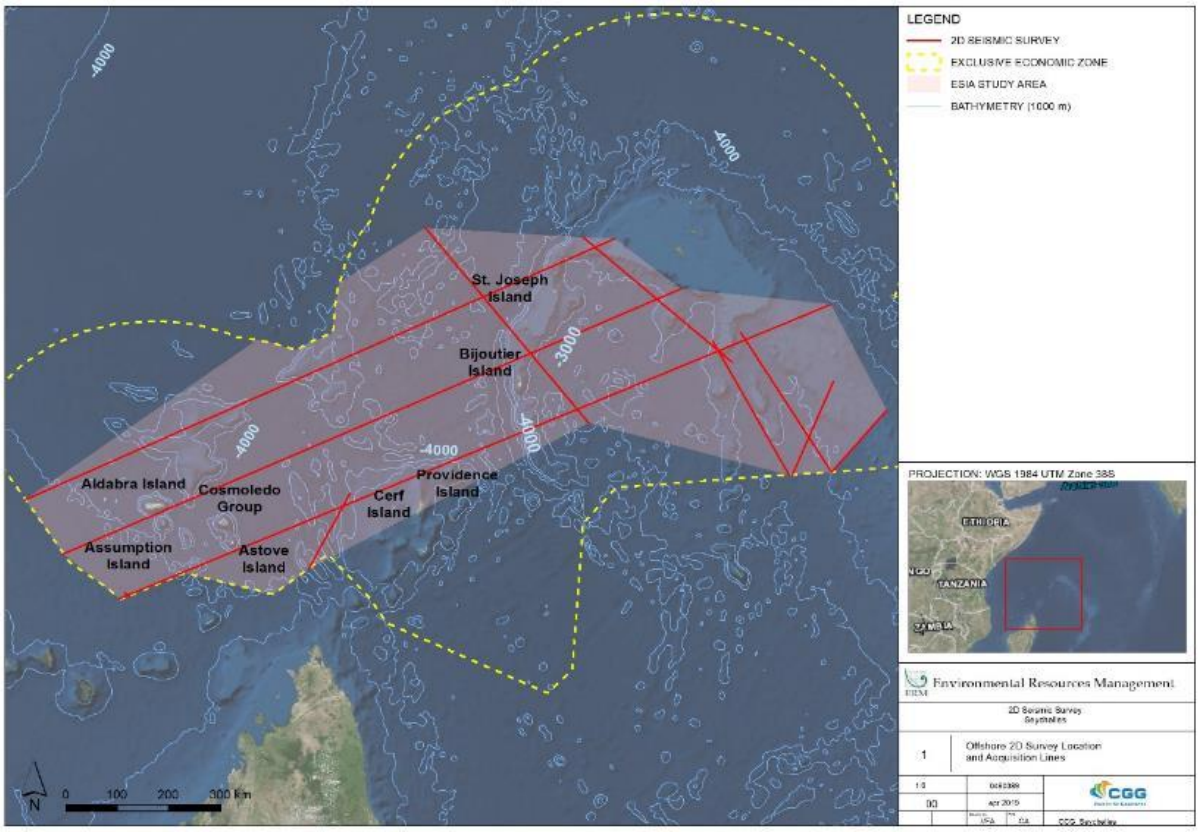


Figure 2. CGG proposed new 2D seismic acquisition program

Interpretation projects

PetroSeychelles needs to constantly keep working on the existing data to come up with new interesting play styles and leads that can be presented to oil companies in the hope of attracting them to invest in the Seychelles EEZ. The company geoscientists undertake geophysical interpretation projects in-house to discover these new leads. In 2020 focus was on trying to identify deep water turbidites since this is a play style which is very popular with international companies at present.

Interpretation of seismic data from the Southern Shelf was initiated and possible turbidite signatures identified. This project will be continued in 2021 and form part of exhibition material for forthcoming conferences and publications.

PROMOTION ACTIVITIES

One of the key responsibilities of PetroSeychelles, is promoting the hydrocarbon potential of the Seychelles EEZ to international oil and gas companies. This responsibility is best met through participation in oil and gas conferences and conventions where technical presentations are delivered and data displayed in booths. These fora also enable one on one discussions with oil company representatives and this is normally the catalyst that encourages further discussions that can lead to applications for petroleum agreements. During 2020, due to severely restrictive travel possibilities, PetroSeychelles only participated in one major oil and gas conference This was the American Association of Petroleum geologists Prospects and Property Expo(APPEX) which was held in London

APPEX 2020 (3-5 March 2020)

The APPEX exhibition was held from the 3rd – 5th March 2020 at the Business Design Center, Islington, London. Two representatives from PetroSeychelles, Patrick Samson (Exploration Manager) and Jean Luc Mondon (Senior Geologist) attended the conference, APPEX offered numerous stands to companies, for showcasing their deals and projects to the attendees. Vendor and service companies are a part of it too. Other exhibitors that participate in the exhibition are: NOCs, Governments, Financiers, Business developers, Senior managers, Explorationists, Prospect sellers, Finance and investment companies, New venture managers, Government representatives, Producing property owners, Principals, Exploration product and service suppliers, exporters, property experts, agencies, dealers, and planners.

PetroSeychelles participated with a booth showcasing the exploration opportunities in the Seychelles, data availability, geological formation, leads, sample seismic lines with interpretation, laws and application procedures. A 15 minute presentation with the title Seychelles Petroleum Potential and exploration Opportunities was also delivered, highlighting the geographic location and data availability, Tectonic Evolution and Petroleum Potential, Legal framework and fiscal Regime and the Seychelles/Mauritius Shared Extended continental Shelf (joint Management Area). All the posters and material for the exhibition were developed, produced and printed in-house.

SERVICE COMPANIES

The event was well attended by service companies. There is presently big emphasis by several service companies to create online platforms for data sharing. Some of these companies do it through an annual subscription while others provide the service for free for National Oil Companies and make their money by charging subscription to other companies. However the conference was at the time the covid 19 pandemic started to worsen and as a result the attendance to the conference was not as busy as expected.

Data Management

As part of its promotion efforts PetroSeychelles needs to ensure that technical data and reports are properly catalogued and filed to allow easy access when inmteracting with interested parties visiting the data room. Petroseychelles is therefore constantly maintaining and upgrading the data room and ensuring integrity of the data and information. Reports are catalogued and rescanned if the original scan is not good quality. The large amount of data is constantly being reviewed and cleaned. Petroseychelles employs a documentation officer since management of the data in house is key to the success of the oil industry. To date PetroSeychelles has digitized all upstream reports dating from the mid-sixties to the present and have them properly catalogued and archived.

PetroSeychelles is also the repository for magnetic tapes containing seismic and other geophysical data. These tapes are stored in a special digital storage room in-house. Petroseychelles has improved its database and is moving to a modern SQL Server database combined with a barcode identification system for all the tapes. The barcodes have been printed and linked to the data base and the data entry project continued in 2020. Tapes archiving to high density optical media also started during the year. Software development for the data management system frontend continued throughout 2020.

During 2020 PetroSeychelles continued to work on improving its website by working on the backend to include interactive license blocks selection modules to make it easier for applying companies to submit the relevant information. The new modules are expected to be rolled out in 2021 once testing and debugging is completed.

COLLABORATION ACTIVITIES

Since its inception, PetroSeychelles, being an organization that employs highly qualified geoscientists, has assumed the additional role of de-facto Geological Survey in the absence of such a unit nationally, and collaborates with several Governmental organisations and other partners on various projects where such expertise is required. A summary of the company's involvement in the main projects under this heading is provided below.

Maritime Boundaries and JMA

Throughout the year PetroSeychelles continued to assist the Department of Blue Economy with the ongoing Maritime Boundaries project as well as the Joint Management Area (JMA). Although the Covid situation prevented travel and thus affected the regular meetings of the JMA Technical Committee and Joint Commission, work continued mainly on the UNDP Demonstration project in the JMA, which aims at consolidating existing databases and elaborate further on the framework for data and information management.

The JMA Demonstration Project aims at achieving its objectives through the delivery of four components.

1. Building Technical and Management Capacity in support of Marine Spatial Planning (MSP) and effective management of the Joint Management Area.
2. Development of a data and information system along with a Programme of data capture and gap-filling as a foundation for an adaptive management strategy.
3. Adoption and implementation of a Marine Spatial Planning approach with the objective of improving and implementing effective decision-making for activities within the Joint Management Area.
4. Monitoring, Evaluation, Adaptive Feedback and Sustainability using UNDP and GEF tracking tool for both annual progress and terminal evaluation under the SAPPHIRE Project modality.

PetroSeychelles participated actively in reviewing consultant reports and also in discussions to finalise several codes that will guide resource exploitation and scientific research in the JMA.

Marine spatial plan

Development of a Strategic Management Framework for sustainable Use of Marine Pretected Areas in Seychelles – Policy Aligment Report

PetroSeychelles has been a key stakeholder throughout the development of the Seychelles Marine Spatial Plan, participating at all levels including Technical Working Groups, Steering Committee and Executive Committee.

As part of the Marine Spatial planning a consultant from Newcastle University undertook a mapping exercise of each allowable activity in the zones identified in the Marine spatial planning process. The process identified 15% of the Seychelles Exclusive Economic zone as zone one. This area is classified as a no take zone with

limited allowable activities. Another 15% is identified as zone two with many more allowable activities with Oil exploration being one of them. The consultant sought comments on the accuracy of the policy map and wanted to understand what the approved statutory framework was.

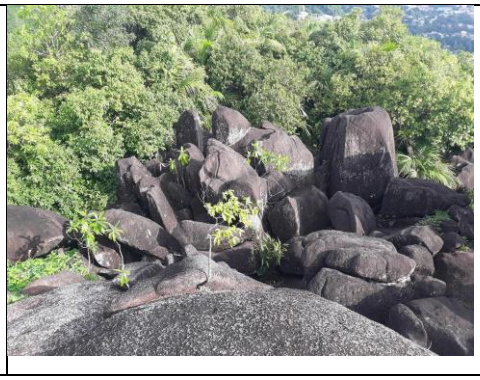
Continous workshops in the MSP process

Several consultative workshops were conducted during the year as part of the Marine Spatial planning process

1. Review of the Marine Spatial Plan Policy
2. Potected Areas Management in the Outer island
3. Evaluation of Goods and Services for existing and proposed Marine Protected areas
4. Review of the Seychelles Ocean Authority Bill 2020

Collaboration with Department of Risk and Disaster Management (DRDM)

During 2020 PetroSeychelles continued to provide Geological support to DRDM. At the request of DRDM two geoscientists from Petroseychelles carried out a geological survey of Parcel V12714 and Belle Vue Estate. The planning Authority in collaboration with DRDM wanted geological input as to the nature and stability of granitic boulders in the proposed construction site. The pictures below show the nature of boulders in the area. Following site visit a report was compiled and handed over to the DRDM.



(Pictures above shows the nature of granites in the proposed construction site)

Visit to Bel Eau Road (Slope Instability)

After a shallow landslide was reported on the slope of Bel Eau road in early 2020 DRDM and the Land Transport Agency invited geoscientist from PetroSeychelles on a site visit to the area to ascertain the stability of the area. It was observed that

- The area is covered with invasive creepers
- In several locations these creepers have covered and suffocated small bushes (probably Kasi bushes)
- There are signs at several locations that there is seepage of water from under the road.
- There is a recent superficial slide in the area. The slide area is presently covered with black plastic and net.
- There is no apparent signs or cracks due to any subsidence on the road.
- It is not obvious what caused the slide, there was no evidence of water flow from under the road at the slide location.

The present thinking is that a small rock or one of the small bushes was uprooted and slid down slope and the resulting scar washed by rain.

Recommendations

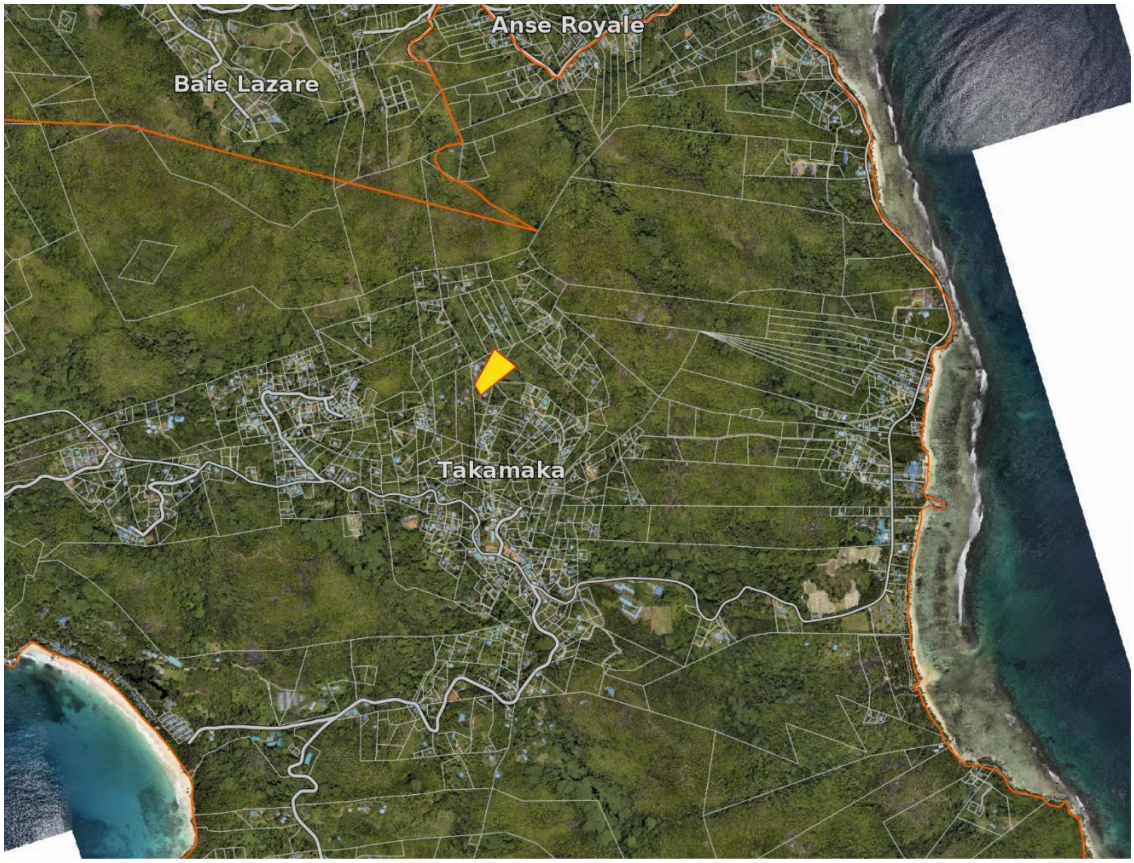
- The area should be monitored regularly especially during heavy rainfall to work out amount and origin of water flowing under the road.
- The Ministry of Environment is to look at the invasive creepers and advise if they need to be removed and replaced by grass
- Land Transport is to consider imposing a weight limit on the road until the dynamics in the area is properly understood.

Stability of the Area of Upper Quatre Borne, Takamaka, Plot T3662

Following a request from the Department of Risk and Disaster Management (DRDM) through Ms. Berlouis by email dated 29th January 2020 to assess the stability of parcel T3662 belonging to Mrs Lita Mousbe in upper Quatre Borne, Takamaka, geoscientists from PetroSeychelles undertook a brief geological survey of plot T3662 and surrounding areas. See Map 1 below for general location of the plot.

Following heavy rainfall in August 1997 there was report of a phenomenon in the upper Quatre Borne area that local residents referred to as an earthquake. Geoscientist from the then Seychelles National Oil Company (SNOC) investigated the claim and from scarring, fissures and damages to one house in particular found on parcel T630 concluded that the features observed were consistent with that of a deep seated landslide. However following the 1997 event there has been no further investigation or mapping in the area.

Mrs Mousbe vacated the house after the heavy rainfall of 1997 claiming her house was hit by lightning. She now wants to rebuild her house and the visit was organised to investigate if the site is at risk of sliding. Following site investigation a report was submitted to the DRDM.



Map 1. Showing parcel T3662 shaded in yellow in upper Quatre Borne Takamaka

Request for wave data

The Energy Commission, through Mr Tony Imaduwa, is in contact with Carnegie, a group looking at the possibility of using wave action to generate electricity. Seychelles unfortunately does not have data on the wave height on a yearly basis to know if such a project is feasible. However as part of the Environment Impact assessment carried out by Enterprise oil in 1995 prior to drilling the Constant Bank well they acquired such data over a one year period and the same was made available to the Energy Commission.

Collaboration with research institution

PetroSeychelles coordinated research by a group of international scientists from three countries (France, Germany and Canada) on the Quest for Past analogues of current and future sea-level and climate changes: coral reef records from the last interglacial period of the Seychelles. This group is composed of carbonate sedimentologists andreef geologists working on the reconstruction of sea level and environmental changes on coral reef records. They collected coral samples from Aldabra and Asumption Islands in 2018 and PetroSeychelles received some preliminary result from their work in late 2020 and expecting more results in early 2021.

Climate Change Issues

Consultants to the Global Climate Change Alliance+ project in Seychelles conducted an analysis on behalf of the Ministry of Finance on several measures Seychelles could take over the next five years to move towards being a more 'climate smart' country. A report was submitted to PetroSeychells for review and several exchanges followed, however at this point it is not clear whether the final product was submitted to the Ministry of Finance.

Talking Climate Chaos

The University of Seychelles hosted a day of talks and exhibitions in February 2020 on the Theme 'Talking Climate chaos'. There were different exhibitions about projects being implemented from renewable energy to coastal management and more. Several talks on the same theme were also organized. Geoscientists from PetroSeychelles gave a one hour talk on the geological evolution of the Planet and how the evolution of Seychelles links with the global time scale. The talk discussed the evolution of life with the evolution of the breakup of Gondwana that eventually formed the Seychelles Micro continent. PetroSeychelles acting as the de-facto Geological survey takes a keen interest in issues relating to climate change and disasters related to developmental issues as well.

Deep seabed mining

The department of Blue economy organised a dialogue on deep seabed mining and the pros and con of such activity. With the changing of mind-set as the world changes from the use of fossil fuels to renewable energy there is a greater need for batteries for the storage of energy. However production of batteries requires rare earth metals such as Lithium, Cadmium, Nickel, Cobalt and others. These metals are common in polymetallic nodules found on the deep seabed. Mining of the deep seabed poses some environment challenges. The dialogue highlighted some of these challenges and what Seychelles needs to consider in this changing world. Some of the questions discussed were, can a blue economy include deep seabed mining?

What is the biggest concern about deep seabed mining? Both personally and for islands that depend on the ocean such as Seychelles? Unsustainable fisheries and the potential for oil and gas extraction seemingly present more urgent and even current threats to Seychelles' EEZ, why talk about deep seabed mining? The dialogue had a large audience throughout the world through zoom and an in-house audience from key departments and non-governmental organisations.