

Anticipating and Managing the Growth and Impact of the Offshore Oil Sector in Suriname

Quan Tjon-Akon* and Farzia Hausil#

*National Institute for Environment and Development in Suriname (NIMOS), Paramaribo, Suriname
#WWF Guianas, Paramaribo, Suriname
Contact details: qtjonakon@nimos.org, fhausil@wwf.sr

Abstract

Suriname started producing crude oil from onshore fields in 1983. Exploration activities offshore have intensified over the years and seismic activities have been carried out for the major part of Suriname's offshore area. All activities in the oil sector are guided and monitored by the environmental agency (NIMOS). Before Suriname's environmental law was approved a voluntary Environmental Impact Assessment (EIA) process was in place. Sector specific guidelines are developed and implemented, and specific EIA guidelines for the offshore oil sector have been produced in September 2020. On the one hand, the oil industry can bring an economic boom for Suriname but can also result in significant environmental and social impacts and risks. It is important to look at this sector from a broader perspective that ensures that its development is guided by high international standards and in harmony with the SDGs. The use of Strategic Environmental Assessment (SEA) is such a perspective. SEA is a new concept for the country and the opportunities to promote this tool as a key means of integrating environmental and social considerations into governments programs and policies are still to be explored.

Introduction

The WWF Living Planet Report 2020 that has been published in September 2020, shows that environmental destruction and illegal wildlife trade is making the planet vulnerable to zoonotic pandemics such as COVID-19. There are diverse negative social impacts to local communities due to fossil fuel extraction, and to the rights of indigenous and tribal peoples. On the oceans, overfishing is the main threat to biodiversity. This may be aggravated by the offshore oil industry, that is expected to increase.

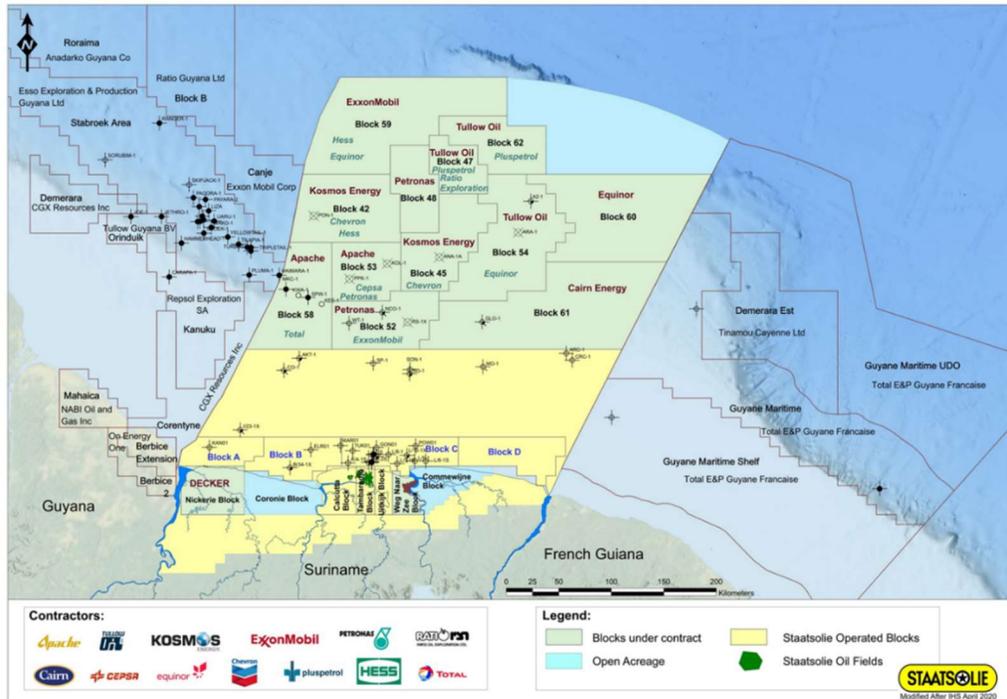
In Suriname, Environmental Impact Assessment (EIA) started in 2005 as a voluntary process with the development of Environmental Assessment Guidelines by NIMOS (National Institute for Environment and Development in Suriname). In Suriname NIMOS is responsible for developing and implementing the EIA system. EIA can help improve environmental management and thus mitigate impacts in the different economic sectors in Suriname. One of the important economic sectors in Suriname is the Oil Sector which has an onshore and an offshore component. This paper will discuss Impact Assessment in relation to the offshore Oil Sector, by providing a short history of the sector, explaining the legal framework, discussing the current impacts of the sector and also discussing how SEA can be used as a planning tool.

Short History of the Offshore Oil Sector in Suriname

In 1980 Staatsolie Maatschappij Suriname NV (Staatsolie) was established, initially to manage Product Sharing Contracts (PSCs) with international Oil Companies (IOCs). Staatsolie is the sole holder of mining rights to hydrocarbons in Suriname, both onshore and offshore. In the early 2000s Staatsolie intensively promoted the offshore areas, resulting in several international oil companies signing PSCs with Staatsolie.

The Staatsolie concession is divided in onshore and offshore blocks (figure 1) which are periodically restructured.

Fig 1: Overview of Suriname’s On- and Offshore Exploration and Production Blocks (Source: Staatsolie/Petroleum Contracts, 2020)



In 2004 Repsol YPF signed a PSC with Staatsolie for the exploration and production of oil in a section of the Staatsolie Offshore Concession: Block 30. Exploration activities within Block 30 were initiated with the acquisition of 4000 km of 2D and 3250 km of 3D seismic data in 2004 and 2005. In 2008 the first offshore exploration well, was drilled by Repsol YPF, but it proved to be uncommercial. Between 2004 until now different other IOCs did exploration offshore following the sequences of 2D-seismic acquisition, 3D-seismic acquisition and exploration drilling. Staatsolie has also conducted their own exploration activities in the Nearshore area of the offshore concession. The Nearshore area covers approximately 11,333 km² within water depths of 0-30 m. Staatsolie is planning further research in the Nearshore area to provide more detail of the oil potential. On January 7th, 2020 the first significant oil discovery was made by Apache Corporation and Total in the Maka-1 exploration well in Block 58 in deep waters offshore Suriname. This was followed by a second and third discovery by them on respectively April 2nd and July 29th, 2020.

Legal and Institutional Framework

In 1985 discussions started to set up a governmental environmental management structure for a more coordinated and integrated approach of environmental issues. This resulted in the establishment of NIMOS in 1998 as the leading environmental institute. One of the main responsibilities was to develop environmental legislation and in the year 2000 the first bill of the environmental law was submitted to the Minister of Environment for approval. However, this draft law did not receive government support until recently.

After 18 years of advocacy work, the Environmental Framework Act (EFA) was finally approved in March 2020 by the parliament. The law establishes the National Environmental Authority, the NMA, and transitions NIMOS into the NMA. The necessary institutional arrangements are currently being undertaken by NIMOS to operate as the NMA. The NMA is responsible for the implementation of the provisions of the environmental law and one of the main tasks is the implementation and monitoring of the EIA process. With the enactment of the EFA the EIA process has become mandatory. The EFA states that EIA should be applied as a national instrument in decision-making on proposed projects (activities) that could possibly have adverse effects on the environment. The criteria and procedures for the EIA process are further determined in an EIA regulation and all oil and gas activities are obliged to conduct an EIA.

The EFA also introduces the concept of SEA and provides the authority to the NMA to conduct a SEA (or to have it conducted by others). A SEA is claimed for all government policies, plans and programs that are prepared for sectors such as agriculture, forestry, fisheries, industry including the oil and gas sector. Requiring a SEA not only depends on the scope of the area, but also on the significance of environmental impacts which the plan or program can have. In this context a SEA can contribute to improving the consequences of a plan or program for the environment. It guarantees that already in the preparatory phase and before adoption of plans and programs, account is taken of the impacts of implementing these plans and programs. In the near future the required criteria and procedures to conduct a SEA will be determined in a regulation of the EFA.

State of Environmental Impact Assessment in the Sector

As mentioned earlier, EIA became a mandatory process through the adoption of the EFA. Before this adoption, the process was voluntary but for the oil sector there was a trigger to conduct EIAs due to the PSCs with Staatsolie, Company Policies and Corporate Social Responsibility.

The Environmental Impact Statements (EISs) conducted by the Oil Companies and reviewed by NIMOS for the Offshore Concession since the year 2008 can be summarized as follows: 23 for Seismic Acquisition, one for a Magnetotelluric and Controlled-Source Electromagnetics Survey and 13 for exploration drilling.

Impact assessment for seismic acquisition focuses on air guns used during the activities, which cause sound pressure waves to propagate through the water and into the seabed. Underwater noise is therefore the most important impact looked at for seismic acquisition EISs. Marine turtles and mammals can be most impacted by acoustics, if unmitigated. Five species of marine turtle are known to occur in Suriname's waters: leatherback turtle (*Dermochelys coriacea*), green turtle (*Chelonia mydas*), Olive Ridley turtle (*Lepidochelys olivacea*), hawksbill turtle (*Eretmochelys imbricata*) and loggerhead turtle (*Caretta caretta*). According to the IUCN Red List (2017) the Leatherbacks, Olive Ridleys and Loggerheads are listed as vulnerable, the Green Turtle is endangered and the Hawksbill turtle is critically endangered. Although a number of different species of marine mammals have been documented in Suriname's waters, there is no official list for Suriname, neither available specific information on the migration and feeding routes. These are all factors which have to be taken into account in the EISs.

Impacts and risks from oil exploration drilling activities are well known worldwide, such as seabed disturbance, oil spills, grey water and sewage disposal, discharge of oily water etc. with the risks of oil spills regularly classified as the most significant. In the planning phase of exploration drilling there is often limited knowledge of the environmental conditions of the area. From the exploration drilling EISs conducted since 2008 it is worth mentioning that baseline information regarding oceanographic data, marine habitats, benthic and marine fauna is included. Consideration is also given to the socio-economic impacts e.g. limitation of fishing areas for industrial fishing, interference with existing maritime shipping

routes and socio-economic benefits like supply of goods and services by local vendors. NIMOS also decided to include external expertise in the review of the exploration EISs, especially regarding the issues of drilling mud and cuttings dispersion modelling, and oil spill trajectory modelling.

The significant offshore oil discoveries of Apache and Total in 2020 will bring new challenges, because of the possibility that Suriname will have offshore oil production in the future, and also increased exploration activities. More EISs will be submitted to NIMOS (NMA) in the future, which means the capacity of this institute needs to be improved. NIMOS has made a first step by developing Environmental Assessment Guidelines for Offshore Oil Reconnaissance and Exploration Drilling in September 2020 and plans to start developing offshore oil production guidelines in 2021. SEA is also one of the tools that can be used to assess the new challenges related to the Offshore Oil Sector.

Implementing SEA for the Suriname Offshore Oil Sector

NIMOS has some experience in conducting SEA's through studies for the forest sector, mining sector and REDD+. One important factor in these studies has been extensive consultation of stakeholders.

Also, in 2017 a broad national seminar was organized to educate key stakeholders (governmental officials, State Oil Company, contractors, NGO's) on the importance of looking at the further development of Suriname's oil and gas sector from a broader perspective and to ensure this development is guided responsibly in line with international EIA and SEA standards. In 2019 a SEA brochure was printed to explain the benefits of SEA to the general public. That same year NIMOS also made an effort to develop draft SEA guidelines, but these will be considered as an internal working document and will be further developed based on SEA practice NIMOS/NMA expects to gain in the next 4-5 years.

When conducting a SEA, whether rapid or complex, for the Offshore Oil Sector in Suriname, certain factors must be considered:

- There is no governmental policy yet for the Offshore Oil Sector. This means that the SEA should be sector based, meaning not linked to any policy/plan or decision-making process but considering what is already happening in the sector and investigating risks and benefits for the future;
- Although there is no governmental offshore hydrocarbon policy, Staatsolie has its VISION 2030 which, among others, aims to develop Suriname's hydrocarbon potential over the full value chain, to generate electricity, and to develop renewable sustainable energy resources;
- Like most developing countries, Suriname has a problem with regular data collection. But the offshore EISs have made a certain level of data regarding the Physical Environment, Oceanography, Sediment Quality and Biological Environment of the Offshore area available;
- At the one hand, the oil industry can bring an economic boom for Suriname but can also result in significant environmental and social impacts and risks;
- The professional capacity for doing SEA in Suriname is limited, but there is a small pool of experienced EIA practitioners in Suriname who can contribute to a possible SEA;
- International factors also have to be considered among others the phasing out of the use of hydrocarbons and the transition to clean energy;
- International and local organizations and NGO's which can assist with information and research through cooperation;
- Ongoing exploration and production activities in the offshore waters of Guyana.

SEA is most useful when it is undertaken as a fully integrated part of a planning process itself (Dalal-Clayton & Sadler, 2005). This does not mean that SEA cannot be used in situations where the plans already

have been developed (reactive process) or there are no plans available. For Suriname, all three scenarios are still possible:

- The government could still decide to develop a plan for the Offshore Oil Sector. Parallel a SEA could be conducted which would feed back and forth into the development plan in an integrated way;
- The decision could be made to carry out a SEA on Staatsolie's VISION 2030, at least the parts which are applicable for the Offshore Oil Sector;
- The third scenario would be to look at the sector as a whole and carry out a Sectoral SEA. Such a Sectoral SEA could be applied to take the cumulative impacts between the offshore hydrocarbon projects (past, current and future), other activities (e.g. fisheries) and government policies and plans (e.g. Integrated Coastal Zone Management Plan) into consideration. This Sectoral SEA can even provide input for future plans e.g. a Marine Spatial Plan or an update of the Integrated Coastal Zone Management Plan.

Conclusion

This paper describes the situation of EIA for the Offshore Oil Sector in Suriname and also the possibilities for SEA. Suriname has acquired experience in the oil sector through own exploration and production onshore, through exploration offshore and dealing with IOCs. Although there is no extensive seasonal environmental data available of the offshore, data gathered through EIAs will provide at least partial input for SEA's. Also there are opportunities for cooperation with NGO's, local and international organizations available for cooperation and research. The growth and impact of the Offshore Oil Sector in Suriname can certainly be anticipated through the use of SEA, which can also show strategic management options to be implemented for the sector. Conducting a SEA for the Offshore Oil Sector in Suriname should not be a great challenge. But the government has to adapt to integrate the use of SEA into its planning process. Conducting a SEA for the Oil Sector will help this integration because of the current high level of interest in this sector. NIMOS, which will transform into the National Environmental Authority for Suriname, is interested in exploring SEA for Suriname in this perspective, but the way in which to use SEA is still open for debate.

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