



THE IMPACTS OF THE LNG INDUSTRY IN CABO DELGADO, MOZAMBIQUE

JA! Friends of the Earth Mozambique
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Summary:

Since 10 trillion cubic feet of natural gas were discovered in the Rovuma Basin off the coast of Cabo Delgado Province in northern Mozambique in 2006, several transnational corporations have signed agreements to purchase and exploit gas from this area. These include: Anadarko, Exxon, Eni, BP, Total and Shell, public and private financiers like the export credit agencies of South Africa, Japan, China, Italy and Holland, the US Export-Import Bank, Credit Agricole, BNP Paribas, as well as several major Chinese banks.

Now Cabo Delgado is home to Africa's three largest liquid natural gas (LNG) projects: the Mozambique LNG Project (led Total, formerly Anadarko) worth \$20bn, Coral FLNG Project (led by ENI and ExxonMobil) worth \$4.7bn, and Rovuma LNG Project (led by ExxonMobil, ENI and CNPC) worth \$30bn.

Mozambique remains one of the poorest and least developed countries and one of the most heavily indebted countries in the world. The 2018 statistics from the International Monetary Fund puts Mozambique at number 6 on the list of poorest countries and 73% of the population does not have access to electricity.

Despite the incredibly limited access to electricity in the country, the liquid natural gas (LNG) projects will not benefit Mozambican citizens lacking access to electricity, since most of the gas will be transformed into LNG and immediately sent to other countries, in particular markets in Asia and Europe.

Furthermore, in order to build and maintain needed infrastructure for this project, the government will need to divert funds that could instead be spent on other more sustainable investments such as renewable energy development, education and social programs.

Already, hundreds of families have been forcefully removed without receiving proper and appropriate compensation, in order for the industry to build onshore support infrastructure, which has severe implications from their livelihoods.

Even though the gas industry usually promotes natural gas as a more sustainable source of energy compared to coal, this is not the case. Gas extraction projects in Cabo Delgado have the potential to result in a huge release of greenhouse gas emissions, especially methane, which could increase the whole of Mozambique's greenhouse gas emissions by 14%.

In this sense, the gas extraction will not only create instability and insecurity for the local population in the Cabo Delgado province, but will also contribute to the global problem of climate change, which is already having a devastating impact on Mozambique. In fact, in the spring of 2019, Mozambique was hit by two major cyclones. This was the first time in the country's history that two cyclones have occurred in a single season, killing over 600 people and affecting at least two million, partially or fully destroying more than 35 000 homes in the Cabo Delgado province.

The gas extraction rush in Mozambique entirely contradicts the imminent need for a transition towards a renewable energy economy.

JA! has worked extensively with local communities in Cabo Delgado and has reported that this situation has caused a lot of confusion and will have several implications on the agreements that have already been signed between Anadarko, the government and the local communities with regard to resettlement, compensation and investments. In this uncertain situation, local communities who lack proper knowledge of their rights in relation to land property, compensation in case of removals, and related matters, will need support in order to ensure that their rights are respected and not exploited by TNCs.

Forced removals from homes and land

In Cabo Delgado province, the gas industry has forced hundreds of families from rural communities out of their homes and away from their farmland and fishing grounds, in order to build the onshore support facilities of the Afungi LNG Park on the Afungi Peninsula for use by the Mozambique LNG, Coral LNG and Rovuma LNG projects.

While Anadarko is the company that developed and carried out the resettlement process, the park is crucial for all projects, making all shareholders in the projects equally responsible for the impacts.

People have lost both their homes, but also the areas they depend on for their livelihood. Already, 556 families have been forcefully relocated, and 2000 families will be moved in the near future. Fishing communities who have lived 50m from the sea for generations, have been moved 10km inland, and without fishing, have lost their means of income.

The method to determine compensatory land for farming families that have been moved was ridiculous. Anadarko measured the size of community members' land by counting the number of palm trees on the plot, leading to people who have 10 hectares of land, receiving one hectare. Furthermore, this new land is far from the new houses they have been moved to. People from these affected communities are literally starving.

Anadarko's resettlement plan was a disaster – even before they completed the consultation and compensation process with communities, they began building new houses, creating an ill-measured and chaotic housing situation.

Furthermore the consultation process is laughable. Community meetings that Anadarko representatives hold take place in the presence of community leaders who, in many cases, have strong political links, meaning that community members do not voice discontent for fear of not receiving compensation or bullying from government.

No local job creation

Very few, if any, of the jobs that are created through this project will go to local communities, and so far there has not been a single job created for anyone from the affected communities.

Locals do not have the education to benefit from jobs. As the assessment states, most of the people who live in the district surrounding the project have received no formal education and much of the population is illiterate. In addition, the local population has little to no experience with the private sector. Therefore, they will not have the skills or education level to perform the jobs that this project will create.

Developing the labour pool with the skills required will take three to five years of substantial support and training. The gas companies have not provided the necessary apprenticeship and business development programs despite knowing for five years that thousands of workers with these skills would be required. The issue of employment has created hostility in many communities, with mostly young people being promised jobs, even though the companies have no plans for training programs.

Not only will the LNG project provide few local jobs, but it will also remove the sources of income that local communities depend on, with very limited information if the compensation (in the

form of money or land) is adequate to create a new income. The EIA itself finds that the majority of the local communities are “highly dependent” on fishing, small scale agriculture, and other natural resources to make a living, and they will lose some if not all access to these means of livelihood.

Militarisation

Over the last two years, there has been a scourge of violent attacks on communities inhabiting the gas region. While the government has been attributing these attacks to ‘Islamic terrorist groups’, many communities believe that these attacks are in some way linked to the gas industry since they only began once industry parties became visible in the area. Furthermore, since the attacks began there has only been one case where a company was attacked – a Gabriel Couto convoy, where one employee was killed. The situation is very complex, and there are many interests at play, not least of which is the gas industry.

Due to these attacks, life has become increasingly dangerous in the Cabo Delgado Province. As a response, the government has brought the military into the area, while gas companies have contracted several foreign private security companies. The region has thus become highly securitised, however local communities still report living under constant fear of mistreatment by the military and by private security actors rather than feeling protected from the attacks, thus creating a fragile context. They are afraid to walk the long distances to the new farmland they have been given for fear of both attacks and harrassment from the army.

Many private security companies, including the Russian paramilitary organisation, the Wagner group, have been in Cabo Delgado recently.

Environmental devastation

This project will have a huge impact on the local environment. The sheer area of the project is massive; the EIA calculates that the footprint of the project is “approximately 3,600 ha, within the allocated approximately 7,000 ha DUAT area.”

The zone where the three parts of the projects are located encompasses an area that provides a home to a large number of flora and fauna species, as well as special ecosystems. The coastline of eastern Africa, including particularly the northern coast of Mozambique, is home to incredible biodiversity. Roughly 60% of eastern Africa’s remaining mangrove forests are in Mozambique, providing excellent habitat and tremendous ecosystem services.

Northern Mozambique's coral reefs are also largely intact and are some of the most species-diverse coral reefs in the region, particularly in the of Cabo Delgado Province where the Project will occur. The area's particularly productive seagrass beds also provide nursery grounds and foraging habitat for fish and turtles. One of these reefs is the Quirimbas Archipelago, a UNESCO Biosphere.

What's more, the EIA indicates that the nearshore and offshore areas include a number of species that are considered imperiled by the International Union for Conservation of Nature (IUCN), including sei whales, Indian yellow nosed albatross, loggerhead, green turtles, leatherback, and hawksbill turtles.

This project will require dredging, disposal of waste materials, and the construction of subsea, nearshore, and onshore structures and infrastructure that will devastate these ecosystems.

This will also harm the species through habitat degradation, noise and ship strikes and force species to leave the area. Moreover, if there is a spill or gas accident, which have become prevalent at energy extraction sites, the impacts will be even more catastrophic.

Although the assessment finds that most of the impacts will be either "minor" or reduced to "minor" with mitigation measures, there is no way that such a massive energy extraction project will not result in many major negative environmental impact, and it is known to be a big challenge to actually implement these mitigation measures.

Legitimacy of Mozambican government engagement

The Mozambican government has been involved in shocking economic scandals in the past, and in 2017, media exposés revealed that the Mozambican government secretly arranged \$2 billion worth of loans and bonds (via Credit Suisse AG and Russian bank VTB Group) without securing mandatory parliamentary approval. Mozambique is still recovering from this debt crisis which resulted in the suspension of all general budget support by donors and brought the country into a deep financial and economic crisis. Three Credit Suisse bankers face money laundering charges, and the former finance minister is in custody in South Africa.

The government agreed to repay the banks with revenues from the gas projects. Though the investments were supposedly to pay for boats to catch tuna, the bonds actually paid primarily for military equipment. The government has admitted that it wanted to use the military equipment to protect the gas reserves and provide investment in related projects and companies.

The Federal Bureau of Investigation (FBI) and US Department of Justice (DOJ), UK government and Swiss regulator have been investigating the banks for making improper payments and deceiving investors.

According to the IMF, Mozambique won't make payments for at least five more years on about \$2 billion of loans that led to a default last year. The international organization thus expects Mozambique to default on external debt until 2023, when the gas projects are supposed to start producing.

According to the World Bank, 27% of the Mozambican population has access to electricity, even though it is a major energy producing country for decades. Hence, it is quite clear that the benefits of the extractive industry do not filter down to the population.

In this way, Eni, Exxon and Anadarko's insistence that the LNG projects will benefit the people and economy cannot be taken seriously – it has never happened before so there is no reason to believe it will be different with this industry.

National budget damage

This project will require a huge investment beyond the project itself, which would be better spent on social programs and renewable energy development. The project itself will require an investment of up US\$ 30 billion.

As the 2014 EIA states, this large investment could make this project the single largest investment project in Mozambique. This investment is in a country where the overall literacy rate is 45% and a mere 28% for females. This project will divert funds that should be going to education and other social necessities in order to build and maintain needed infrastructure for this project. When these projects occur, governments always have to spend huge amounts of money beyond what private investors provide.

Major contributor to climate change

The LNG projects in Mozambique will result in a huge release of greenhouse gas emissions, especially methane, not just over the next few years, but for decades to come.

According to the Anadarko/Eni 2014 EIA, the project will increase the whole of Mozambique's greenhouse gas emissions from 0.4% up to 10% per year. "[G]iven the scale and nature of the

project... the overall significance of the impact is not expected to significantly change post-mitigation.”

The amount of money that will be invested in this project will mean that this infrastructure will stay in place for decades. Not only will this shift investment from renewables to natural gas, as happened in the U.S., but it will also disincentive future renewable opportunities.

This is imperative: Gas is NOT a renewable energy source.

Methane emissions are a major problem for the oil and gas sector; some estimates put methane leakage from oil and gas production at 17%. Natural gas' release of large amounts of methane led to a Cornell University review of the scientific research that found conventional natural gas has a greater climate impact than coal. Contrary to what one might think, the newer the gas well, the more likely the well is to leak methane.

These wells will continue to leak methane long after the energy companies have stopped using them to extract natural gas. This information was corroborated by a NASA-led study published in January 2018, which concluded that the sharp increase in atmospheric methane concentrations is primarily due to the oil and gas sectors.

This project does not just involve the extraction and burning of natural gas, it also involved liquefying it for export. The LNG project lifecycle processes of production, transport, liquefaction, shipping, regasification, and power plant combustion is incredibly energy intensive. The U.S. Department of Energy estimates that the liquefaction, transport, and regasification process increases the total lifecycle of greenhouse gas emissions from the natural gas industry by 15%.

With the growth forecast in the sector, LNG “will be the biggest source of carbon emission by 2025”, says consultancy Wood MacKenzie.

In February 2020 the UN Environment Program released a report which found that methane has a greenhouse effect that is about 80 times more potent than carbon dioxide over a 20-year period and is responsible for at least 25% of global heating, and also that human emissions of fossil methane are underestimated by 40%.

Furthermore, Coral LNG is not consistent with the Paris Agreements. It is already known that the already-operating oil and gas fields alone would take the world beyond the 1.5 Celcius Paris Agreement target. As this gas field is one of the largest gas fields in the world and with a lifetime of around 30 years, the project does not fit in a 1.5 C pathway.

Mozambique is already facing the impacts of climate change and is very likely to be one of the countries that will be hit the hardest. Mozambique is consistently ranked as one of the most exposed countries to risks emanating from climate change, and just last year, two devastating cyclones hit the country and parts of surrounding countries, killing over 1300 people and displacing over 2 million.

Do note that the EIA itself speaks of the climate impact of the promises [although as mentioned, the figures are highly underestimated].

“It is evident that by 2022, the first year of full operations of the LNG Facility, GHG emissions from the Project could account for nearly 10 percent of Mozambique’s national GHG emissions.” (p.18)

“Given growth in national emissions over time, by 2028 the Project could account for around 6 percent of national GHG emissions.” (p.18)

“The Project is estimated to emit approximately 13 million tonnes of CO2 per year during full operation of six LNG Trains. The Project GHG emissions will increase the level of Mozambique’s GHG emissions by 9.4 percent when six LNG Trains are projected to be operational in 2022.” (p.18)

“The duration of the impact is regarded as permanent, as science has indicated that the persistence of carbon dioxide in the atmosphere is said to range between 100 and 500 years and therefore continues beyond the life of the project... In light of the above, the significance of the impact of GHG emissions from the Project on Mozambique’s national GHG emissions can be considered MAJOR.” (p.20)

And according to the EIA Non-technical Summary:

“Given the scale and nature of the Project, while good practice can be employed to reduce the GHG emissions, the overall significance of the impact is not expected to significantly change post-mitigation.” (p.14)