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The Seventh Meeting of Contracting Parties to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean (Nairobi Convention)

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Oil and Gas Exploration in the South Western Indian Ocean region

SUMMARY

In view of the major discoveries oil and gas in the WIO region and the potential social and economic impacts on the economies of the countries on one hand and negative environmental impacts on the other hand, it is prudent that adequate governance mechanisms are put in place. Governments in the region recognized this as an emerging issue and in the Fifth Meeting of the Contracting Parties, held in South Africa in 2007 the Nairobi Convention Secretariat was requested to assist governments to address the issue within the framework of the Nairobi Convention. This was reaffirmed at Focal Points Meeting held in 5 August 2012 in Maputo, Mozambique. The paper also responds to Article 4 d of the Convention, that obliges governments to ensure that new or existing activities, developments, programs, plans and processes that are likely to cause significant adverse environmental impacts are subjected to the coastal and marine environment are subjected to environmental impact assessment, or environmental audits, strategic environmental assessment or strategic environmental assessment as may be appropriate. The Secretariat in partnership with WWF, WIOMSA and other members of the Consortium for Conservation of Coastal and Marine Ecosystems (WIO-C) have prepared an exploratory paper that outlines elements of a conducive investment climate on oil and gas.

As the governments of the WIO-Region are keen to develop an attractive investment climate, this paper argues that this should be guided by measures that safeguard environmental benefits. Important elements of such measures on oil and gas exploration in the region could include: i) Appropriate policies, plans and legislation; ii) systems and tools such as strategic environmental assessments and sensitivity mapping; iii) accountability, transparency, public participation, capacity building; and iv) regional harmonization and cooperation including research and development partnerships, regional dialogue and funding mechanisms.

The on-going discussions on oil and gas in the region are important and should involve key stakeholders including governments, industry and the civil society through appropriate forums and mechanisms. The discussions should be organised to particularly enhance awareness among stakeholders of key development and environmental issues as well as transboundary aspects. Policy

recommendations on how governments in the region could address oil and gas exploration will be presented before member States of the Nairobi Convention during COP7. The member States will be requested to endorse the partnership between the Nairobi Convention Secretariat, WWF, WIOMSA and other WIO-C members on future work on oil and gas; and urged to adopt the proposed policy recommendations.

INTRODUCTION

The recent findings of oil and gas in the South Western Indian Ocean (SWIO) region are resulting in a new and unexpected economic dynamic in this part of the Africa continent. Although not a totally new feature, sporadic exploration having taken place for several decades, the recent developments have been made possible by advances in drilling technology and made more urgent by rising oil prices and problems of accessing traditional sources of supply due to current conflicts in the Middle East.

Geographically the region is well placed to become one of the world's major new suppliers of oil and liquefied natural gas (LNG) to energy importing countries. If approached in an environmentally responsible manner the recent oil and gas discoveries therefore represent a significant opportunity to escalate development and attainment of the Millennium Development Goals as well as a bridge to more sustainable energy sources in the longer term.

Significant reserves of off-shore natural gas have recently been found off the coasts of Mozambique and Tanzania (which may eventually include Madagascar). Furthermore, there are indications that the existing oil fields in Uganda and South Sudan extend into the Turkana and Marsabit regions of Kenya and southern Ethiopia and commercially viable off-shore oil prospects have improved with some recent oil exploration results.

So far, most of the natural gas discoveries are off northern Mozambique and southern Tanzania in the blocks roughly due east of the Rovuma-Rufiji region, but further exploration for both oil and gas is also under way off the coasts of Kenya and Madagascar.

Discoveries

Mozambique

By mid-2012, international exploration companies had made major discoveries of on-shore and off-shore natural gas in Mozambique, some of which have already started producing. Overall, Mozambique has discovered an estimated 130 trillion cubic feet with a further 150 trillion cubic feet considered likely, which is comparable to the discovered natural gas resources in Kuwait.

An estimated 60 trillion cubic feet of natural gas reserves are being developed to supply a Liquefied Natural Gas (LNG) plant that is being planned on-shore in Cabo Delgado province to process and export the gas.

Tanzania

Wentworth Resources, Canada – formerly known as Artumas- was the first foreign investor in Mnazi Bay and is now supplying gas to partially support Tanzania's domestic power needs. Gas extracted in the Songo Songo and Mnazi Bay fields of the Rovuma Basin is being transported to Dar es Salaam by pipeline to the ~~Ubongo~~ Ubungo power plant as well as local industries for electricity generation.

By mid-2012, several discoveries had been made off the Tanzanian coast and more investments are expected in Tanzania's gas sector in the second half of this decade. It is estimated that Tanzania will confirm 60 trillion cubic feet of natural gas reserves in the next 5 years (30 trillion feet have been

confirmed from Songo Songo, Mtwara, Mnazi Bay, Ntoria, Mikindani, Nyuni and Mkuranga). To put this into perspective it is estimated that 10 trillion cubic feet alone could meet the annual consumption of France, Germany, UK and Italy combined. LNG planning and site surveys are also ongoing in the Mtwara region.

Although current commercial prospects off Tanzania have been limited to natural gas, commercially viable oil discoveries remain a strong possibility. Oil shows have been reported in Mandawa Basin, Songo Songo, Mafia, Makarawe, Pemba and inland at Lake Tanganyika. These have so far been proven economically unviable.

Madagascar

Madagascar is a proven petroleum province with onshore discoveries of controversial bituminous (tar) sands and subsurface heavy oil deposits. Indeed, with estimated combined resources of 20 billion barrels of oil, the yet-undeveloped Bemolanga bituminous (tar) sand and Tsimiroro heavy oil deposits are the best known hydrocarbon accumulations in the region. However, no conventional oil accumulations of commercial interest have been discovered so far. Nevertheless, several companies have confirmed their interest in further exploration in the area by establishing production sharing agreements (PSAs) with the government.

Additional large prospective zones are located along the island's west coast within the Ambilobe, Majunga and Morondava basins, all extending into the deepwater Mozambique Channel. The offshore Morondava basin is considered to be related to the same petroleum system that produced the onshore accumulations but extending into a deeper geologic setting that will yield lighter oil discoveries.

Iles Eparses (French territory)

It is estimated that Juan de Nova, 150 kms off the west coast of Madagascar, one of France's "Iles Eparses (scattered islands)" may contain significant hydrocarbon deposits. The oil and gas potential in this deep water area is reinforced by its position between the Bemolanga and Tsimiroro fields in the east, and the presence of significant natural gas fields in the west. In December 2008, two oil blocks were subject to licenses granted by the French Government for exclusive offshore exploration and production.

Kenya

The most recent oil finds in the region have been made on-shore in Kenya which has some open oil and gas exploration blocks. These were made in Turkana County and represent significant commercially viable finds of crude oil. Exploration is now expanding to Marsabit County and Lake Victoria and also into Ethiopia in the belief that the Kenyan, Ugandan and Ethiopian finds are linked. Announcement of potential offshore reserves have also recently been made, but so far their commercial viability has not been established.

Discoveries in neighbouring countries

Although not part of the current geographic focus, other oil producing neighbouring countries impact the coastal zone of the region indirectly by their need for infrastructure facilities such as pipelines and ports to transport the product. Significant oil reserves are already being exploited in South Sudan - the largest regional producer and an OPEC observer. New discoveries of oil in Uganda in 2006 in the Albertine drift region have ushered in a new chapter in Uganda's development and include plans for a new oil refinery.

Associated Infrastructure Developments

The afore-mentioned developments have the potential to start a new era of industrialisation. The need for associated infrastructure for transport and export escalates when the oil discoveries of land-locked South Sudan, Uganda, as well as the mineral wealth of the region, are also taken into account alongside the needs of offshore gas discoveries.

The increased efficiencies possible through regional and international collaboration in undertaking trans-boundary Strategic Environmental Assessments (SEAs/) and /or land and marine spatial planning for all developments including the oil and gas sector and its associated infrastructure will make good business and also address environmental issues including joint research and capacity development facilities. These efficiencies could be extended to .regional joint infrastructure development, including for example, LNG plants, petro chemical industries etc. A funding mechanism for investment in cross border sustainable development initiatives including the management trans-boundary ecosystems could be established.

On-going development

Mozambique

Construction of an LNG facility on the northern coast of the Cabo Delgado Province is under development. The plant will collect, transport, process, and export natural gas in a remote coastal location near Pemba. This process will initially target offshore areas where natural gas will be extracted from hydrocarbon reservoirs below the seafloor via sub-sea wells.

The first LNG plant comprises a two train process (with potential expansion to four trains) each with a capacity of 5 million tonnes per annum. This is due to come on stream in 2018. There are indication that a further 7 LNG plants could be needed in Mozambique alone. Already, with just the Cabo Delgado developments, Mozambique will become the third largest LNG exporter in the world after Australia and Dubai.

A 900 km pipeline already exists supplying natural gas from Temane fields to South Africa and Maputo. The prospect of further natural gas imports to South Africa could significantly reduce that country's dependence on coal fired power stations.

Tanzania

In Tanzania the 300 MW Ubuongo power plant is utilising gas from Songo Songo and Mnazi Bay fields of the Rovuma Basin with a major pipeline (532 km and capacity potential of 105 million cubic feet of gas per day) supplying Dar es Salaam.

Kenya

Kenya's **Lamu-Southern Sudan-Ethiopia Transport (LAPSET)** corridor project, plans to connect southern Sudan (1,250 km), Ethiopia (460 km) Uganda (500 km) and Nairobi (270 km) to a new cargo port to be constructed at Manda Bay (Lamu). There are also plans to upgrade the existing port facilities at Mombasa. The LAPSET project is planned to include highways, railways, pipelines, oil refinery (at Lamu) and fibre optic cables linking to south Sudan and Ethiopia. The project also plans to include an airport, a new city and tourism developments, and convention centre, cruise ship terminal facility, fisherman's wharf and has been described as one of the largest current infrastructure investments on the African continent. The Lamu port itself will be the region's largest oil exporting facility.

ISSUES AND CHALLENGES

Oil and gas projects can have significant economic, environmental and social impacts throughout their project life cycles which must be identified, assessed, managed, mitigated, ameliorated, compensated and rehabilitated at all stages.

Although there is no shortage of guidance on best practice in managing oil and gas projects, the recent experience of a catastrophic oil spill in the Gulf of Mexico is a good reminder of the constant risk factor associated with the industry and the need for constant due diligence and the highest level of oil and gas performance standards.

Environmental, economic and social challenges

The development of the oil and gas extractive industry is occurring in a region which is (i) world renowned for its biological diversity, (ii) is supporting very important national, regional and international fisheries (mainly shrimp and tuna), and (iii) a growing and internationally renowned tourism industry in which the attractions of iconic natural features are enriched by cultural diversity and history. This area also supports (iv) important artisanal fisheries; (v) ports, which are not only important for the coastal countries, but also for the hinterland; (vi) important coastal agriculture; (vii) major industrial areas; (viii) coastal mining; (ix) coastal transport; and (x) important human settlements (up to 60 million people live in the region's coastal zone and this number is expected to double by 2030), which are directly dependent upon natural resources for their livelihoods.

Both policy makers and the private sector are aware of the opportunities and even more aware of the many difficult policy challenges presented by the recent oil and gas finds. Chief amongst these is how to balance the potential high economic and development returns from successful exploitation of oil and gas projects against the high financial and environmental risks – including the management of expectations, price volatility, macro-economic instability, technical and logistical complexity, high capital and operating costs, and increased potential for conflicts.

The government in the region are acutely aware of the need for transparency, equity, the management of the oil and gas industry, including a governance infrastructure that ensures public oversight, high standard for environmental management. The governance structure should ensure equitable developmental that will harmonize existing and other potential uses of the coastal and marine resources with the new industry.

Investors, multinational or national companies operating in the oil and gas industry should use local laws but most importantly they should use the best practice in environmental and social standards and compliance from the global market place to the mitigate and minimize impacts before addressing the issue of compensation.

Investors should be encouraged to develop programmes that achieve a balance between social, economic and environmental needs through the inclusion of measures to ensure protection, mitigation, rehabilitation, habitat enhancement, monitoring, education etc. Such measures are particularly important where local populations depend on the ecosystem goods and services directly.
The western Indian Ocean countries should be encouraged to set up separate special fund reserves special fund earmarked for long-term development programmes that will guarantee sustainability through diversification towards greener, carbon free economies. Tanzania has recently promoted the prospect of a special fund to ring fence gas revenues.

Cumulative environmental impacts

The ecosystems and services that they provide are already under significant pressure in the region, including from coastal erosion, siltation and sedimentation, pollution from untreated sewages, litter, agriculture and industrial effluents, and oils from ports and oil tankers using SWIO waters, overharvesting of fish stocks, intentional or accidental capture of vulnerable species, degradation of coastal habitats, climate change (floods, sea level rise, rising of sea water temperature, coral bleaching, etc). The cumulative impacts of these aspects together with those associated with the oil and gas sector need to be considered in future development planning.

Transparency and involvement of all relevant stakeholders, including local communities

The oil and gas industry is in its infancy in the region, however, there are signs that that the industry has been led more by the private sector, and increasingly, the civil society has consequently been calling for a more transparent oil and gas industry especially in contracts, agreements, concessions, the collection and allocation of revenues, royalties and taxes. There is a constant fear that is associated with the use of oil revenues for unsustainable short term objectives.

Tanzania and Mozambique has signed the Extractive Industries Transparency Initiative (EITI) and are in the process of becoming full membership. Other Countries in the WIO are encouraged to join the EITI, as members of EITI are obliged to ensure that status that t countries with the oil and gas, receive a fair share of the benefits from oil and gas developments, revenues are managed in a prudent and transparent fashion with and equitable distribution strategy that guarantees that the benefits reach the citizens of each country.

Legal and Institutional aspects

The establishment of policies, laws and supporting institutions are critical for a country to make the most of its natural resources. Updated policies to guide the governance and management of the upstream oil and gas sector, together with effective legal and regulatory frameworks, should provide an investment climate which protects other sector interests (like fisheries, tourism, etc). State of the art EIAs, risk assessment, contingency and emergency response plans are also necessary if environmental and social risks are to be appropriately assessed, avoided and managed where unavoidable – in the context of the 'mitigation hierarchy (avoidance, mitigate, ameliorate, (restoration/ rehabilitate), off-set). This will be dependent upon a comprehensive and scientifically credible understanding of the state of the coastal zone.

Multi stakeholder engagement in these processes needs to be strengthened, including streamlining environmental aspects. Relevant government institutions should strengthen technical capacity, experience and skills for managing complex oil and gas developments, or other developments of the scale and complexity of these mega projects. Strengthening of the governance, institutional capacity, laws and regulatory policies of the countries' of the region is therefore critical

Regional cooperation

The Kenya's **Lamu-Southern Sudan-Ethiopia Transport (LAPSET)** corridor project illustrates, the trans-boundary nature of the "oil and gas footprint", real or potential. Oil spill contingency planning, transport and trade are trans-boundary issues and require an adequate regional governance system.

At present, the only regional governance framework dealing specifically with issues related to oil and gas is the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (signed in 1985, effective 1996 and amended 2010). It provides a mechanism for regional cooperation, coordination and collaborative actions in the

eastern and southern African region and has specific clauses related to information sharing, consultation and environmental assessment between countries relating to potential trans-boundary impacts. The Convention, furthermore, has a specific Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency, which includes the risks of oil spills.

EFFORTS ALREADY UNDERTAKEN IN THE REGION

With the prospects of developments in the Oil and Gas sector, countries in the region have started putting in place national instruments to address issues associated with these developments.

Transparency and involvement of stakeholders

An encouraging development is that Mozambique and Tanzania have become members of the EITI. The first round of EITI country reports clearly portrayed the challenges related to the transparent use of revenues, with both countries showing major deficiencies. However, Mozambique was recently awarded full-compliance status, as the first country in the region. Tanzania is still a candidate country. Unfortunately, Madagascar's EITI status was suspended, although a process is on-going to revive its status.

Another good sign of progress is that multi-stakeholder platforms on extractives industry are active in all three countries.. Also, coalitions of Civil Society Organisations related to the Oil and Gas sector have been established in Kenya, Tanzania, Mozambique and Madagascar. Some of these platforms are already very active, and becoming increasingly professional. These platforms for civil society engagement in Oil and Gas development are crucial parts of ensuring the necessary level of public participation in Government decision making and accountability.

Legal and institutional aspects

In 2004, the Government of Mozambique created the National Oil Institute and in 2009 approved the Strategy for Concession of Areas for Oil Operations. Currently it is developing a Natural Gas Master Plan to help shape future management of the exploitation of these resources. Furthermore, the Government has recently decided upon the development a Corporate Social Responsibility (CSR) Policy specifically dedicated to the extractives industry sector.

In 2003 Tanzania produced the National Energy Policy, and has developed a draft Gas Master Plan and a Natural Gas Policy/Gas Revenue Management Bill. Similar processes have been undertaken or are being started up in other SWIO countries.

In Kenya, the Petroleum Institute of East Africa is strengthening its middle level training programs and has plans to collaborate with local Universities to provide training as part of building capacity for the extractive sector. Kenya is also currently reviewing its Energy Policy and Petroleum Act and is encouraging production sharing agreements.

An important factor in this regard is also the fact that all countries in the region have in place systems for undertaken EIAs. EIAs are undertaken routinely for all major projects. The challenge in this regard lies more in the technical capacity and expertise for Government institutions to assess the adequacy and appropriateness of the EIA's for the new stream of major projects and investments in the Oil and Gas sector. In Kenya, Environment Law and Policy are under review with the aim of strengthening EIA applications, including streamlining the use EIA experts in the EIA processes. The EIA process for specific projects is now being decentralized to Counties to increase efficiency.

Also, there is a gradual increase in uptake of Strategic Environmental Assessment (SEA) as a tool for more strategic assessment of the potential impacts of policies, plans and major development

programmes. More and more SEAs are being conducted in the region. Tanzania and Mauritius have in place legislation that makes SEA compulsory for such processes and other countries are expected to follow suit. Kenya has developed the National SEA guidelines, expected to be launched by the end of 2012. Kenya has also made proposals for the specific inclusion and enforcement of SEA in the proposed Environment Law. This will make SEA compulsory within both the private and public sector.

RECOMMENDATIONS FOR THE WIO REGION

One of the critical decisions with regard to oil and gas will be on how to most effectively exploit the resource within specific guidelines. This decision should be based on a comprehensive, participative and rigorous policy development and assessment process analysing whether the potential positive results will outweigh the negative, whether cross sectoral compatibility can be achieved, and the path that will lead to the most sustainable outcomes.

SEA provides the framework to help ensure that environmental factors are given due consideration alongside economic, social and political concerns in oil and gas development planning.

The up-take of SEA as a policy and planning tool and a contribution to good governance is gaining momentum and much of the newer legislation requires an SEA process for policies, plans and programmes (e.g. in Mauritius and Tanzania) while Kenya has produced comprehensive SEA Guidelines, and Madagascar refers to the need for EIA for new policies, plans and programmes. Mozambique is currently implementing some SEA exercises on the coast.

In consideration of the all the aspects discussed above, the following broad recommendations are proposed for consideration of the Contracting Parties to the Nairobi Convention:

In adherence to clause 14 of the Nairobi Convention, to *call upon Contracting Parties to undertake adequate assessment of the environmental, economic and social impacts of the ensuing oil and gas developments in their respective countries, taking into account the scale of such developments and the need for the assessment of trans-boundary and cumulative impacts therefore. The primary tool promoted for such assessment would be Strategic Environmental Assessment.*

In addition, Contracting Parties should call upon the *Nairobi Convention Secretariat to take a lead in promoting regional integration in the planning and management of oil and gas exploration and development in the region, in terms of leading a process towards a regional environmental assessment, the development of specific guidance, capacity building and harmonization of policies and legislation, as well as provisions for joint management and responses related to the potential negative impacts of oil and gas exploration*.

More specific recommendations for both individual Contracting Parties and the Convention are listed below.

National Level

1. Scale up programmes to build the capacity for the good governance and effective management of the extractives sector – adhering to and building on the best practice guidance of the Natural Resources Charter (2008), including the use of available tools such as Strategic Environmental Assessment (SEA) to ensure policies, plans and programmes integrate environmental factors into oil and gas planning and development, drawing upon international best practice.

2. Sign up to and operationalize the Extractive Industries Transparency Initiative (EITI) and progress beyond revenue transparency to greater transparency in contract negotiations, within the bounds of commercial sensitivities.

3. Establish a fund from the revenue windfalls of oil and gas production for reinvestment into sustainable development initiatives e.g. renewable energy developments, fisheries and tourism protection etc.

4. Pursue pro poor policies, equitable distribution of benefits, and economic diversification to avoid dependence upon the oil and gas sector.

5. After assessment of immediate development needs, consider establishment of a sovereign fund to ensure that future generations benefit from resource extraction.

6. Engage in improving Land and Marine Use Planning. Clearly identify and demarcate, and step up the protection of critical habitats, high conservation value areas, ecosystems and the services they provide and cultural resources. Increase investment in appropriate marine and coastal zone protection through rigorous planning and management.

7. Ensure the implementation of international best practice, high quality standards. With commitment to project-specific tools such as:
    - Environmental and Social Impact Assessments (ESIAs) of extraction and processing activities and associated infrastructure development.
    - Compensation schemes – such as biodiversity off sets, when other options for site location no longer exist.
    - Environmental and Social Impact Management Plans (including Bio diversity Action Plans, Community Engagement Plans).
    - Corporate reporting according to internationally accepted standards.
    - Ensure technology development and transfer forms an integral part of oil and gas development strategies to help build local capacity.

8. Contribute to the general improvement in environmental awareness, and capacity building in environmental management skills.

Regional Level

9. Promote regional integration in the planning and management of oil and gas exploration and development.

10. Promote regional cooperation on planning (e.g. by undertaking transboundary SEAs/ land and marine planning etc.) for all developments including the oil and gas sector and its associated infrastructure.

11. Promote regional efficiencies and economies of scale through joint infrastructure development, including downstream beneficiation (LNG plants, petro chemical industries etc). Establish a fund for cooperation and investment in transboundary sustainable development initiatives for the region.

12. Establish a Research and Development (R&D) partnership between key research institutions in Science, Technology and Innovation (STI) to understand and fully utilize the potential of oil and gas developments and support capacity building, information and knowledge sharing between scientists and institutions at national, regional and international level- including on conservation of bio diversity and protected areas.

13. Develop a regional contingency master plan and an insurance fund for potential disasters related to oil and gas production and transport.