Preparing to manage oil spills and other disasters

Patience Mubangizi

An oil spill in a water body in Nigeria. Oil spills will cause severe environmental damage

Uganda is endowed with oil and gas in the Albertine Graben, which is part of the western rift valley around Lake Albert. The area stretches from Nebbi, Nwoya, Buliisa, Hoima, Kibaale and Ntoroko and is classified as a global biodiversity hot spot (State of the Environment Report – NEMA, 2010).

Biodiversity includes species of fish, reptiles, and amphibians in Lake Albert and River Hohwa; wild animals and birds in Kabwoya, Bugungu and Kaiso-Tonya wildlife reserves; trees in forested areas and grassland in savannah areas. Lake Albert is the seventh largest lake in Africa, situated in the western rift valley on the border between Uganda and Congo. The lake occupies a surface area of approximately 6,410 square kilometres and is 48 metres deep on average.

Oil exploration has been going on for some time now and production is expected soon. The current estimate of Uganda's oil potential is over two billion barrels, capable of supporting a production output of 100,000-150,000 barrels per day for over 25 years (JICA 2011).

Crude oil will be added on Uganda's list of export products and is expected to boost the country's economy and prosperity.

Various oil wells will be developed and at those sites in Nebbi, Nwoya, Buliisa and Hoima, oil production installations will be built. These will be linked as a network system of pipelines up to the refinery and the beginning of the 600 millimetre diameter crude oil pipeline at the proposed site at Kabaale in Buseruka sub-county, Hoima district.

During operations, oil spills may occur from time to time, which will definitely put land, water and air at a risk of pollution. Nigeria is an oil producing country and its experience on oil spills is of special importance to Uganda since the country is preparing for oil production soon.

Particular reference is made on a publication entitled "*Oil Spill Problems and Management in the Niger Delta (P.C. Nwilo and O.D. Badejo, 2005)*". The publication presents Nigeria's experience on oil spills in the environment in the Niger Delta. It identifies causes of the oil spills as vandalism by criminal gangs, sabotage for civil or political reasons, condition of installations or pipelines due to age or corrosion, oil blow outs and leaks from flow stations due to faults on installation systems, human error during operations and maintenance and natural disasters such as wild fires, earthquakes etc.

4,647

oil spills

The number of incidents that resulted in spilling approximately 2,369,470 barrels of oil into the environment in Nigeria.

The publication indicates that between 1976 and 1996, 4,647 incidents resulted in spilling approximately 2,369,470 barrels of oil into the environment. Of this quantity, an estimated 1,820,410 barrels (77%) were not recovered. It also states that available records indicate 6% was spilled on land, 25% in swamps and 69% in coastal waters.

For Uganda, this is an eye opener for disaster preparedness towards mitigating adverse impacts during oil production. Spills may be on land, rivers, swamps, in forests, wildlife reserves or in waters of Lake Albert and will have impacts.

IMPACT OF OIL SPILLS ON ENVIRONMENT

Impacts of an oil spillage in the Albertine Graben will be varied.

1 Pollution of fresh waters on shores of Lake Albert will cause a severe environmental damage. Quality of the fresh water will be degraded where it cannot be used by humans for drinking, cooking, bathing or washing clothes. Fish in the lake will die, which will badly affect the livelihoods of the local fishermen plus local Governments, whose income from local taxes on fish will be lost.

2 Oil spills on land will also degrade the quality of soil to become infertile while those in other ecosystems such as rivers will affect water and aquatic animals.

3 If a spill occurs in a wildlife reserve or forests, wild animals and birds will be affected because their habitat condition will change, resulting into deaths or migration.

4 Gas flares will also pollute the atmosphere with green house gas emissions, which are famously responsible for climate change.

5 Spills will affect the existing communities socially and economically, causing resettlement of local communities with consequences as loss of fishing sites and agricultural land which will translate into loss of livelihoods for fishermen and farmers. It will be in the best interest of the Government and all stakeholders if such situations are well-handled in order to avoid misunderstandings between the local people and the oil companies.

MANAGEMENT OF OIL SPILLS

Management of oil spills will be the responsibility of the Government, PAU, UNOC and oil companies extracting, refining, transporting or pumping oil and other stakeholders. Of course, the oil companies will have satisfied the Government with credible Environmental Impact Assessments that propose use of strategies that are appropriate to mitigating the adverse environmental impacts of oil spills.

- First: Government will introduce laws, regulations and guidelines for operating oil companies and other stakeholders in the sector during production and conveyance. The laws should provide for clean-ups/decontamination using the best available and safest technologies and for compensations in case of damages to private or public health, property or environment. The Ugandan courts should be competent and efficient in delivery of justice in cases of oil spills. This means that the judges, magistrates and judicial staff should be specially trained and prepared for oil cases. Experience in Nigeria indicates that cases pend in courts for a long time and the related costs for advocates and environmental surveys may be very high.
- **Second:** There will be need to establish a detection and rapid response unit or agency to deal with oil blow outs, explosions, leaks, bursts, vandalism, maintenance of installations and mechanical or chemical decontamination operations of degraded land and water bodies.
- **Third:** In order to help the operating oil companies to make timely and correct decisions in selecting areas of priority for purposes of oil spills, environmental sensitivity maps of areas of operation in the Albertine Graben should be developed and used.
- **Fourth:** Since the 1,410km Hoima-Tanga crude oil pipeline will traverse Uganda and Tanzania, both countries should co-operate in monitoring the safety and integrity of the pipeline by providing security units and patrols to stop crude oil vandalisms and smugglers, who may be armed.

For ease of mobility, there should be a security road along the pipeline, while, in emergency cases, an option of rapid air mobility using helicopters should be available. Whether Uganda can reach a level of using a satellite to monitor oil installations and pipelines as the case is in Nigeria, is a matter of time and affordability.

- **Lastly,** Government/PAU/UNOC and oil companies must conduct public awareness about oil spills in the environment in the areas of oil production and conveyance.

The writer is a former Special Presidential Assistant on Environmental Affairs at State House, Kampala