# East Africa Regional Cooperation in Oil and Gas

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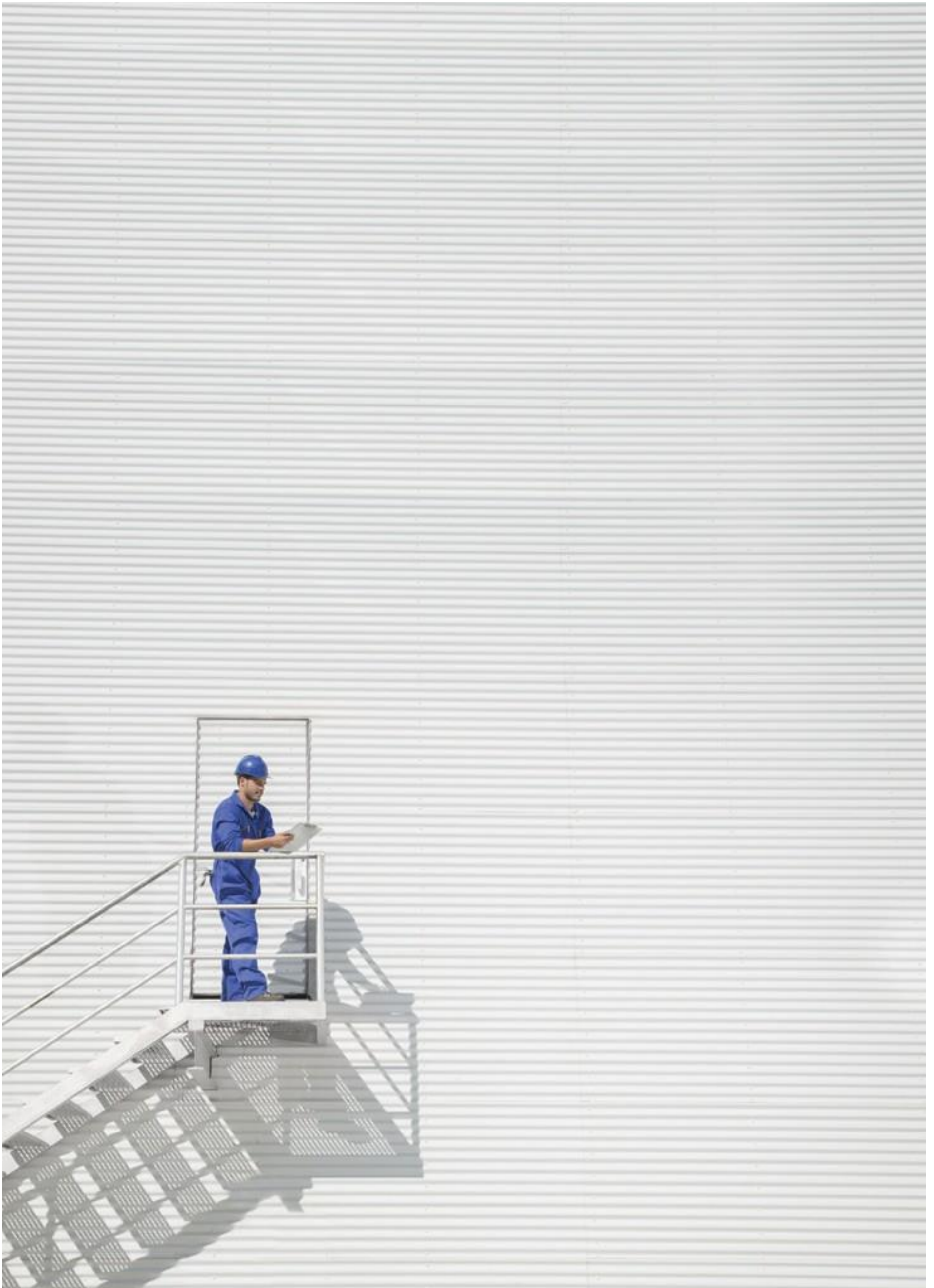

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# The history of regional cooperation in East Africa

The history of regional cooperation in East Africa is quite long and fascinating. As early as 1917, Uganda and Kenya had a customs union arrangement which Tanzania (then Tanganyika) joined in 1927. Over time, regional integration efforts in East Africa have changed form – for instance, there was a time when integration took the form of a common service organization where Kenya, Uganda, and Tanzania shared a common banking regulator, railway, postal service, airline, university system, and other services. Today, regional integration is governed by a treaty signed by member states which include Kenya, Uganda, Tanzania, Rwanda, Burundi, and most recently South Sudan. According to the treaty, the objective of the East Africa Community (EAC) is "...to develop policies and programmes aimed at widening and deepening co-operation among the Partner States in political, economic, social and cultural fields, research and technology, defence, security and legal and judicial affairs, for their mutual benefit." It makes sense for economic cooperation to drive regional integration because together, the EAC member states together with Ethiopia represent a single market of nearly 280 million people and have a combined GDP of nearly USD 220B with an average GDP growth rate of 5.3% in 2014.

The EAC allows member states to plan together and leverage the power of collaborative action to bring economic development to the region. Perhaps one of the most visible areas of collaboration is the transport corridor programs which seek to provide improved physical access to markets among member states. For the infrastructure sector, the EAC prioritizes interventions for road, rail, maritime, air transport and oil pipeline systems that will "attract investment into the region, improving competitiveness, and promoting trade." Infrastructure projects are expensive and it makes sense for member states to collaborate and make the economics more manageable. However, in the oil and gas sector, cooperation remains elusive and it has recently become an arena for classic zero sum games. In this scenario, the potential for mutual benefit is not optimized, and often cooperation does not deliver better outcomes for involved parties. In the long run, this dynamic is self-affirming and may undermine the very ideals it seeks to build up.

1 East African Community, 2000, The Treaty for the Establishment of the East African Community, pp. 12 - 3
2 World Bank Data 2014
East African Community online, EAC and Infrastructure, available http://www.eac.int/sectors/infrastructure

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# A Brief History

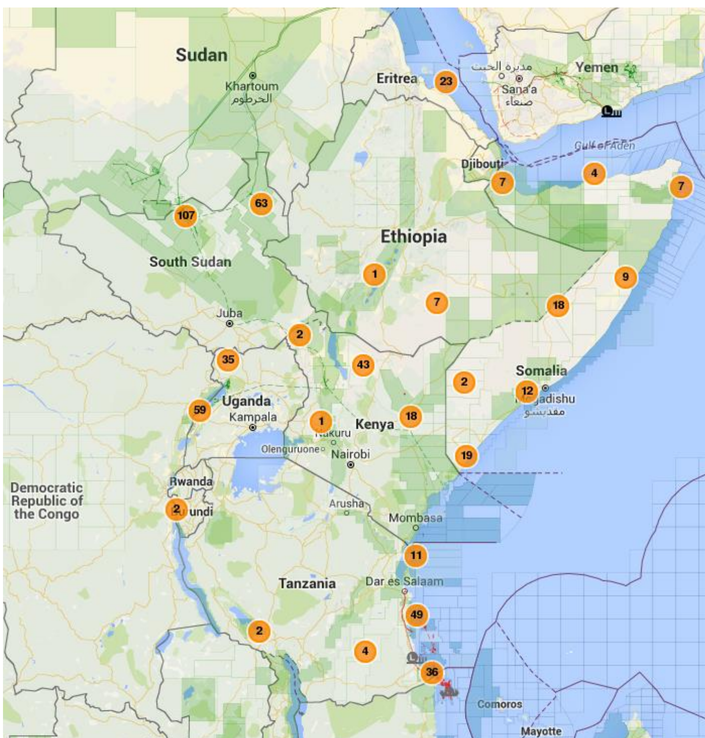


*Figure 1: Map of wells drilled in East Africa*
*Source: Wood Mackenzie*

The first oil well in Uganda was drilled in 1938 and after a hiatus of 63 years, another well was drilled in 2002. From then, the average number of wells drilled per year was one (1) until 2006 when five (5) wells were drilled. Oil was discovered in 2006 and the region attracted the interest as an emerging hydrocarbon province. The amount of drilling activity increased significantly and since 2006, over 80 wells have been drilled in Uganda, making the 10-year average 8.4 wells per year.

In Tanzania, the first commercial discovery was made in the Songo Songo field in 1974 but the average number of wells drilled in any year prior to 2006, was no more than two (2). Since 2006, the average number of wells drilled in Tanzania was five (5) wells per year and over 60 Tcf of natural gas has been discovered offshore.

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Kenya's success followed with discoveries in the Lokichar basin located in Turkana. Prior to 2006, about 32 wells over a span of 47 years had been drilled in Kenya. It was not until 2012 when discoveries were made that there was a considerable increase in drilling activity. Over 40 wells have been drilled in Kenya since 2012 owing to the favourable price per barrel but also due to renewed enthusiasm over the prospectiveness of the EA region.

Though not part of the EAC, Ethiopia has had increased attention to its hydrocarbon potential in the last ten years as well. Prior to 2006, a total of 13 wells had been drilled in Ethiopia with the first drilling in 1951. From 2006, 10 wells were drilled with seven (7) of those spudding between 2013 and 2015. The country had registered two (2) significant gas finds in the Calub and Hilala fields with reserves of 2.7 tcf and 1.3 tcf respectively. Even so, the most recent drilling activity has proven a working petroleum system though none of the activity has declared commercial finds.

Burundi has had limited success with oil exploration where Amoco drilled two dry holes in 1986 and 1987, and no other drilling programs have been undertaken to date in Burundi. Rwanda has had no history with drilling activity.

The South Sudan story is more complex. According to the U.S. Energy Information Administration, because of civil conflict, oil and gas exploration was limited to the central and south-central regions of the formerly unified Sudan. As a result, much of South Sudan acreage remains unexplored and civil unrest limits further exploration activity. Nevertheless, prior to independence in 2011, oilfields in South Sudan had some drilling activity with a total of 80 wells being drilled between 2000 and 2011. After independence, however, due to conflict and service disruptions, exploration and production activity has slowed down considerably. South Sudan is landlocked and relies on the Sudan to export its oil – disputes over revenue and transit fees led to a complete shutdown of production in 2012. Shortly thereafter, in 2013, armed conflict between the President and former Vice President, led to evacuation of workers and shut down many operations. In view of this instability, only one exploration well was drilled in 2012 and there has been no drilling since then.

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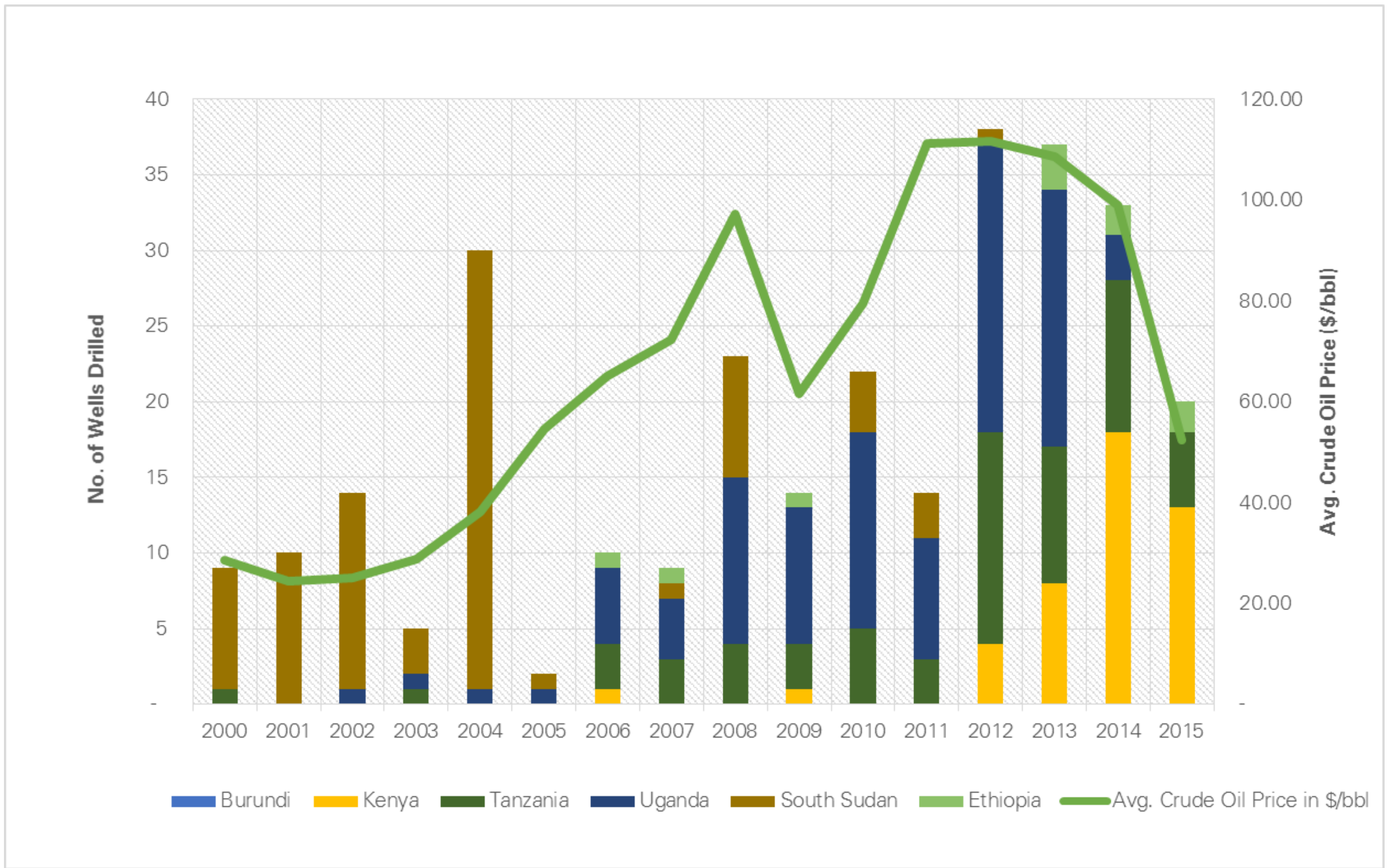


*Figure 2: Number of wells drilled per year in East Africa (2000 - 2015)*
*Source: BP Statistical Review 2015, Wood Mackenzie*

Aside from the story of recent entrant, South Sudan, reading these developments in retrospect paints a picture of regional cooperation even in discovery of hydrocarbons. The success of Uganda contributed to a new age of hydrocarbon exploration activity coupled, of course, with a prevailing high per barrel price of oil which made more cash available for exploration activity.

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# Pipeline matters

Higher exploration activity is often correlated with a greater rate of discoveries, but with little development or focus on upstream oil and gas, East Africa has limited infrastructure to support an integrated petroleum sector. The downstream sector is relatively more developed as the networks for marketing and distribution of petroleum products has been built over time. However, the infrastructure to support such activities as export, refining, and development of related industries such as petrochemicals, is limited across the region.

In the absence of robust upstream activity, EAC member states have focused on investing in efficient ports, expanded and connected road networks, modernizing the railways, and opening up previously disconnected rural and remote areas. It would make sense given the hefty financial burden of taking up these ambitious projects to work together. However, there is every indication that cooperation eludes us.

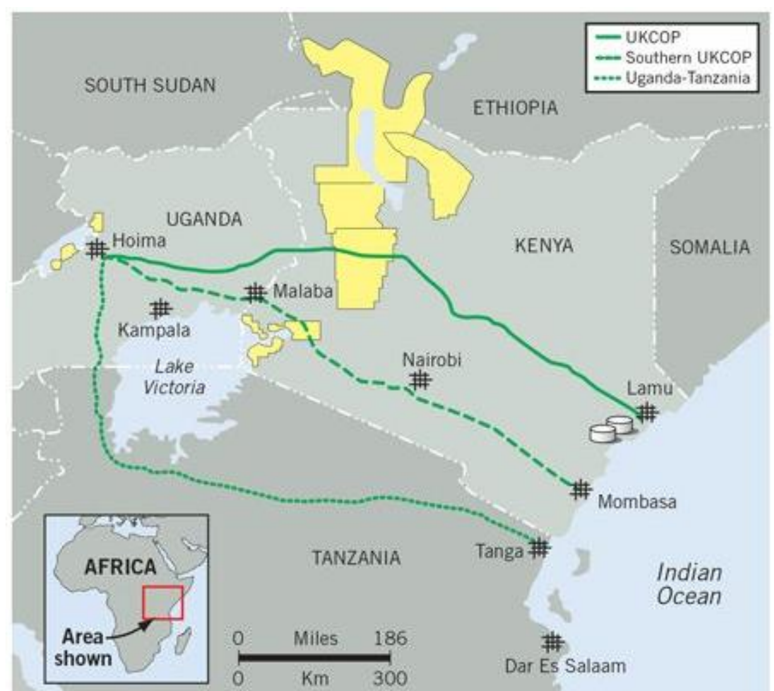


*Figure 3: Crude Pipeline Alternatives - East Africa*
*Source: Oil and Gas Journal*

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Estimates of the pipeline tariffs for Kenya and Uganda were USD 7.70/bbl and USD 8.30/bbl respectively. ”

For a long time, the 1,300 km northern route from Lamu to Lokichar and then into Hoima was considered the best option. However, concerns with security, land acquisition, inflation of costs, and ability to deliver the project on time, complicated the routing decision and the option to develop two separate pipelines won the day. Kenya will be building its own crude export pipeline separate from Uganda and Tanzania who will route their own through to the Tanga port.

This situation precisely reflects the inefficiency of a zero sum world view. Previously, estimates of the pipeline tariffs for Kenya and Uganda were USD 7.70/bbl and USD 8.30/bbl respectively, with an expected rate of return for the pipeline project being at 13%. With separate projects, the tariffs are estimated now at USD 12.94/bbl and USD 11.30/bbl for Kenya and Uganda respectively, with an expected rate of return of 10%. Projected breakeven price for the blocks in Kenya previously ranged between USD 37/bbl and USD 42/bbl but in light of emerging information, break even prices could be in the range of USD 45/bbl – USD 49/bbl. Break even prices for the development in Uganda are now estimated at USD 51/bbl. Even with now improved Brent prices at close to USD 50/bbl, the viability of the projects has to be examined more closely. In many ways, for Kenya forging ahead separately is nearly inevitable because undeveloped petroleum reserves are not quite as useful to a nation seeking to achieve double digit GDP growth along with significant improvements in access to public goods and services. But the economics have to work.

South Sudan, its own internal conflict aside, has to consider serious alternatives for exporting its crude. The long history of conflict with the Sudan means that activities suffer disruption at the hand of politically motivated actions. South Sudan has signed MoUs with its neighbours in hope of building a pipeline connection through Lokichar in Kenya to Lamu Port or to the Port of Djibouti through Ethiopia.

In addition to the debate on export crude pipeline, Djibouti and Ethiopia recently announced plans to build a mega gas project. The project will include the construction of a gas pipeline that will allow gas finds in Ethiopia to get to market. The project is backed by China, who in this case, would also be the export market for Ethiopia's gas. This project which includes an LNG plant and export terminals will cost approximately USD 4B.

In many ways, due to geographical constraints, one can see why it is difficult to go beyond bilateral arrangements for oil and gas infrastructure. However, especially in the case of pipeline infrastructure, the benefit is in creating a network that would allow shared costs among users. In all the cases presented above, however, there exist solutions that would allow countries in the region to move beyond unilateral action. It requires stronger coordination mechanisms, for sure, but cooperation among these governments would mean that there would be more to go around in monetary terms, allow for significant and better control of pipeline assets, and catalyse growth in partner countries.

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[1] Peter Nolan & Mark Thurber, in Victor, Hults and Thurber (2012), *Oil and Governance, State-owned Enterprises and the World Energy Supply*, Cambridge.

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# The problem of collaboration

The EAC ambition for regional integration is admirable but the observations suggest that cooperation is problematic. While member states agree on the desired outcomes to increase access and leverage infrastructure for growth, in many cases, the mindset that prevails appears to privilege national interest at the expense of collaboration.

In the case of the crude export pipeline, for instance, the Uganda/Tanzania pipeline route necessarily excludes Kenya's needs while the Uganda/Kenya route excludes Tanzania's interests. In fact, reports in media noted that the pipeline route debates pitted Tanzania and Kenya in a bid to win over Uganda. Additionally, the alternatives presented are to a large extent are dictated by geography and politics which limit the creativity that would seek out solutions that benefit more than one pair of countries. Furthermore, South Sudan's preoccupation with internal stability also means that its contribution to this debate is limited. In the end, the undisputed benefits lead to a perhaps necessary fixation with the obstacles presented in collaboration.

This is the problem of collaboration. While desirable, collaboration is a highly orchestrated process whose detailed work often serves to separate parties, primarily because it exposes the areas of difference.

By focusing on the problems presented by collaboration, solutions and negotiations expose the fact that treaties and intentions for integration remain instruments that cannot enforce one of the most critical components of a collaborative venture: commitment to stay. True collaboration requires that involved parties dedicate themselves to jointly resolve emerging problems and stay the course promised. In this way, the good will among parties remains more important than the best laid project plans and unfortunately, this cannot be legislated or contractually enforced.

In East Africa, our history of shifting alliances means that cooperation requires more deliberate action and commitment. In order for regional integration in oil and gas to succeed, EAC member states must find adequate answers to the following question: if it does not make sense to jointly develop a vibrant oil and gas sector in East Africa, where requirements are extremely costly and future benefits are likely to be very rewarding, in what other ways can EAC member state cooperation be successfully applied?

4 Analysis provided by Wood Mackenzie

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