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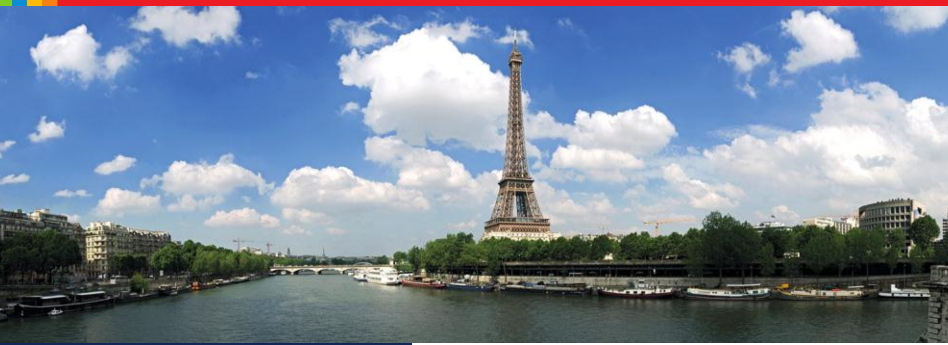

LOCAL CONTENT STRATEGIES IN THE OIL AND GAS SECTOR

HOW TO MAXIMIZE BENEFITS FOR THE HOSTING COMMUNITIES?

THEME PAPER

Institut français des relations internationales (Ifri)

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FOREWORD

Revisiting the geopolitical scene and the current areas of strategic importance, the *New Dimensions of Geopolitics and Natural Gas* report illustrates the growing role of various stakeholders and their impact on shaping policies. This emerging trend adds new dimensions to the issues already prevalent in the gas industry, leading to higher scrutiny and rising expectations. This theme paper addresses in particular the social impact issue associated with O&G extraction activities and the stance of stakeholders in this context. It presents the increasing focus on the creation of productive links between the O&G industry and the rest of the domestic economy, showing how the promotion of "local content" can actually contribute to reverse the "resource curse", if robust and collaborative strategies are put in place.

INTRODUCTION

Discovering oil and gas resources can be both a blessing and a curse. Why it can be a blessing is rather straightforward: extracting oil and gas (O&G) generates significant flows of revenues to the hosting country. History has, however, told us that natural resources, especially O&G, are not necessarily an engine for economic growth as they tend to create distortions impeding economic development. The "resource curse", widely analyzed in the academic literature[1], is explained by the "Dutch disease" phenomenon and by poor governance. The Dutch disease relates to the fact that hydrocarbon exports trigger an inflow of foreign currency to the hosting country, leading to an appreciation of the exchange rate, which has a negative impact on the competitiveness of non-hydrocarbon tradable goods. In the 1990s, the resource curse was also explained by the adverse effects of primary resources on a country's institutional quality. Many authors addressed the issue of "petromania" behavior and rent-seeking activities in the hydrocarbon-exporting countries, giving often rise to corruption and deficit in public governance, and leading sometimes to situations of extreme institutional collapse and to civil conflicts.

This challenging background is a major concern not only for governments, international institutions and civil society, but also for the extractive companies, which are seeking to secure their investments by building long-lasting partnerships with the hosting countries. Building on this convergence of interests, there is a growing mobilization to implement an efficient management of the O&G resources in view of limiting the adverse effects on the economy and on institutions. The step further is to ensure that these resources actually generate benefits for the local economy, in particular through the creation of productive links.

Over the last years, increasing 'local content' has become a priority strategy, with governments enacting more stringent legal provisions, international institutions issuing recommendations and O&G companies committing to review and improve their practices. While it is probably too early to tell whether the global effort to push local content actually helps reversing the resource curse in all cases, different approaches can be compared and lessons can certainly be drawn on how the O&G companies can contribute better to the economic and social development of the hosting countries.

[1] See for instance M. L. Ross (2012), "The oil curse: how petroleum wealth shapes the development of nations. 2012

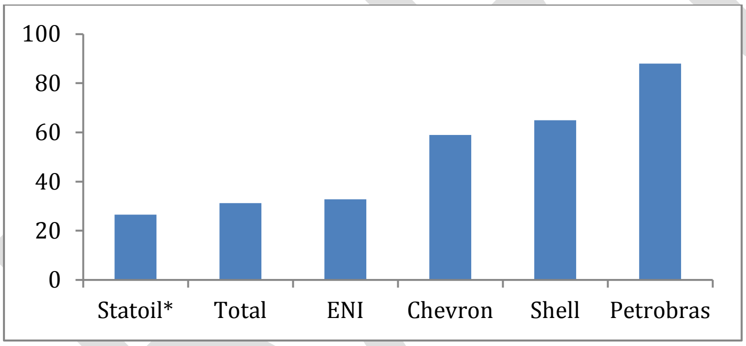
I. LOCAL CONTENT, A PROMISING STRATEGY FACING STRONG IMPLEMENTATION HURDLES

From the outset of production, almost all hosting countries are taking actions to ensure that the O&G industry provides opportunities for local participation and brings the most value-added to their nation. These measures are often referred to as 'local content' policies.

a) Expected social and economic benefits for the hosting countries

The World Bank defines local content as *"the extent to which the output of the extractive industry sector generates further benefits to the economy beyond the direct contribution of its value-added, as through links to other sectors"* (Tordo et al., 2013). The overall idea is that, on top of the resource rent, the O&G activities can have a stimulating effect on economic growth and development, if they are sufficiently integrated within the domestic economy. Beyond direct employment of the local population for conducting the project, one objective will be to capture locally as much as possible of what the O&G companies spend to carry out their activities. In total, it is estimated that the companies from the O&G and mining sectors spend between 40 and 80% of their revenue on the procurement of goods and services (Mc Kinsey Global Institute, 2013).

Figure 1: Expenditures in goods and services by major O&G companies in 2013 (in billion $)



* NOK170bn
Sources: Corporate social responsibility reports

For these financial flows to be retained locally, home nationals need to be able to secure opportunities in the procurement processes. A "backward linkage" to the domestic economy is created when the O&G industry relies on a local supply sector to perform its activities. Local content will also consist in creating "forward linkages" with the economy, when the commodity produced is then used as an input for another sector located within the country, before the processed good is exported. A typical example is to have the oil refined in the country where it is produced before being transported overseas.

While the types of possible linkages with the rest of the economy are clear, **it remains difficult to define local content in practical terms.** Deciding whether a firm qualifies as 'local' is indeed a challenge since different situations can be envisaged. For instance, a firm can be located domestically, but at the same time be owned by foreigners, hire expatriate employees and use imported industrial machinery for its production. In fact, there is **no unique way of measuring local participation in sectors linked to the O&G industry**, but the key expectation is that jobs and incomes are generated within the domestic economy, for the benefit of the hosting communities.

In a long-term approach, the linkages between the domestic economy and the O&G companies should serve as **a trigger for industrialization by creating technology spillovers, enhancing local skills and strengthening local entrepreneurship**. It is an opportunity to reinforce the productive structure of the domestic economy, facilitate diversification and avoid the Dutch disease phenomenon. In doing so, the resource-rich countries can expect to become less dependent on the direct revenues from O&G production, therefore less exposed to the volatility of commodity prices and, in the end, better prepared for the time when these natural resources will fade away.

b) The North Sea: the first local content "success story"

Looking at the extent to which the O&G industry benefits to hosting countries, the exploitation of the natural resources in the North Sea appears as a real success story. The United Kingdom and Norway are prominent counter-examples with regards to the "resource curse" theory, both in the way O&G revenues have been managed to ensure intergenerational equity and in the way these new activities have served to promote broader economic development.

In the case of Norway, oil was discovered in 1969. Only a few years later, the political authorities took decisive actions to ensure petroleum competences would be built up in Norway and home nationals could fully engage in the extraction activities, in cooperation with the International Oil Companies (IOC). Statoil was founded in 1972 as a limited company owned by the Government of Norway. The same year, the agreements between the Norwegian State and the IOCs were modified and Statoil was granted a 50% share in each of the production licenses.

The royal decree of 1972 did not provide for detailed local content obligations, but it included legal provisions making sure Norwegian suppliers were given a fair opportunity in the tender procedures. For instance, article 54 of the decree stated that when Norwegian suppliers were competitive in terms of price, quality and delivery reliability, they should be given **preference over foreign suppliers**. Oil companies were required to inform the Norwegian Ministry of their tender schedule and of the firms in their bidders' list before the tender. The Ministry could require including Norwegian firms in the bidders' list, and ultimately it had the possibility to change the company selected for the supplier contract.

The focus was also put on **innovation**. The RF-Rogaland Research Institute was established in 1973 to develop expertise in O&G technologies and the University of Stavanger received government funding to develop research programs on petroleum engineering. Tax deductions were also introduced to incentivize the O&G companies to locate their research and development activities in Norway.

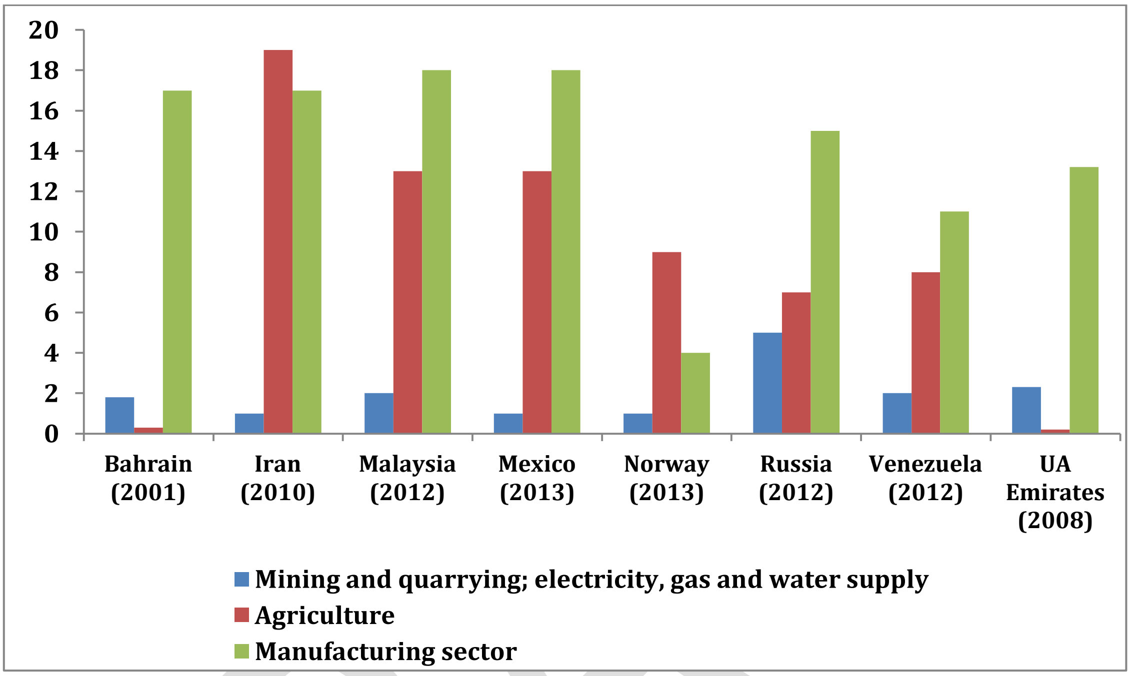
These policies have proven successful. Statoil is now one of the biggest energy companies in the world, operating in 36 countries and having gained a globally-recognized expertise in the area of offshore petroleum activities. Norway has also developed a strong industrial base for the supply of goods and services for the O&G activities. The share of "local content" ranges from 50 to 60% for investments in the development of new petroleum fields and reaches 80% for maintenance and operations (Heum, 2008). In 1994, Norway had to prepare for its entry into the European Economic Area and therefore phased out the provisions of article 54 of the 1972 Royal decree. From this date, supply and service providers have been exposed to international competition in the tender procedures, but it has not put a stop on their expansion.

c) Why success is not guaranteed with local content policies

As shown by the Norwegian experience, local content is clearly a valuable strategy for the hosting country but there are some obstacles to its development, related notably to the specificities of the O&G industry.

Contrary to other industries, the extractive industry is highly capital intensive and generates little direct employment. In Venezuela, the mining sector contributes to 36% of the GDP, whereas it employs only 2% of the population. The figures are the same for the main O&G producing countries.

Figure 2: **Employees working in the mining and quarrying sector and electricity, gas and water supplies in major O&G producing countries (in % of total employees)**



Source: International Labour Office

The skills required are very specific making it difficult to find candidates with the necessary qualifications in the hosting country. In addition, the need for manpower is not stable. It reaches high levels during the construction phase, which lasts only 3 to 5 years, and then decreases drastically at the time of development and production.

Although the expenditures of O&G companies are significant (see Figure 1), **the goods and services** required for the O&G projects **are again very specialized** and involve highly sophisticated technologies that may not be easily offered by local suppliers entering this activity. To have the inputs meeting the quality standards, being delivered on time and purchased at a reasonable price, it seems a less risky approach to rely on a global and long-established supply chain, at least in a short-term perspective. Because of these specificities, the O&G industry can be enclave-oriented and carry out its activities with only expatriates and by using only imported inputs.

To counteract this tendency, companies need to be incentivized to adopt a local content approach. This is what the Norwegian government has done in the 1970's with the enactment of legal provisions to enhance local participation. However, Norway already had an industrialized economy before the oil adventure started. The expertise in the O&G sector was nonexistent, but Norway had a robust educational system and a labor force involved in relevant sectors such as shipbuilding and hydroelectricity. This was a good starting point for building a local supply chain for the O&G activities. In addition, it has been argued that the timing of the discovery of oil in the North Sea was "lucky" because in 1970's the IOCs tended to be excluded from many oil-producing countries and therefore the Norwegian government was in favorable position to bargain with these companies. On top of that, offshore production was relatively new for the international companies, so there was a window of opportunity for the Norwegian players to play an active role in this technological change (Heum, 2008).

Because of these specific circumstances, it is probably difficult to derive a success formula from the Norwegian experience. Giving a speech at a conference on local content in Ghana in 2013, the Norwegian Ambassador advised the audience to **use Norway as an “inspiration**” but not to try copying it.[2]

II. RENEWED EFFORTS TO BUILD STRONGER TIES WITH THE LOCAL COMMUNITIES

Hydrocarbon resources were discovered in other parts of the world a long time before the North Sea discoveries. Promoting local content has always been a preoccupation for the hosting countries, but efforts have often failed to achieve the desired results, especially in the lesser-developed countries. For instance, after the discovery of oil resources in Nigeria in 1956, the Petroleum Regulations put an obligation on the holders of licenses to employ local manpower and engage in training activities as of 1969. The local content dimension was also reflected in the contractual arrangements with the IOCs. After joining OPEC in 1971, Nigeria took a 35% stake in the oil companies operating in the country and the state oil company, the Nigerian National Petroleum Corporation (NNPC), was established in 1977. Despite these measures, political authorities failed to get the Nigerians involved in the oil industry and the country has for many decades been presented as a prime example of the resource curse.[3] The success of local content policies is of course extremely dependent on the context, with the level of infrastructure development, education, institutional stability and structuring of the civil society playing all a crucial role. However, the diversity of situations is no longer considered a blocking factor and the last decade has seen a marked development of local content strategies in almost all O&G producing countries.

a) Strengthened legal frameworks for local content, the case of Nigeria

In 2000, the share of local content in the O&G activities performed in Nigeria was estimated to be of only 5% (UNDP, 2011). The hydrocarbon resources had not met the expectations in terms of opportunities for indigenous participation and the need for action was also reinforced by the growing tensions in the Niger delta, where O&G is produced.

Building on the political consensus that local content should be made a priority, a Nigerian Content Division was established in 2004 within NNPC and the same year a 10-point local content directive was issued by this new body. The declared objective was to raise the level of local content to 45% in 2007 and then to 70% by 2010. The directive was extended in 2005 and 2006 and the Nigerian Content Division engaged the discussion with the IOCs, international and local service companies to better identify where the local content potential could be maximized.

[2] http://www.ghana.norway.info/News_and_events/Making-local-content-work---the-Norwegian-experience/#.VBrsl1dSisg
[3] See for example: Sala-i-Martin and Subramanian (2003), “Addressing the Natural Resource Curse: An Illustration from Nigeria”, IMF Working Paper

- *Key elements of the Nigerian Content Bill*

As a second step, the local content requirements were enacted in law. The "Nigerian Oil and Gas Industry Content Development Act" was signed by President Goodluck Jonathan on 22nd April 2010, setting out a comprehensive legal framework for the promotion of Nigerian content[4].

- **A Nigerian Content Monitoring Board** was established to oversee the implementation of the Act and detail its provisions by issuing guidelines. When bidding for a license and before the execution of any project in the oil and gas industry, the operators are now required to submit to the board a "Nigerian Content Plan" in which they have demonstrate how they intend to give "first consideration" to the use of Nigerian goods and services and "first consideration" to the employment and training of Nigerians.
- **Minimum specifications have been introduced** with for example a minimum number of Nigerian manpower hours according to different criteria such as the length of the project or the identification of areas for which a 100% Nigerian spend is required. A special deviation authorization can be delivered by the Ministry but it cannot last more than three years.
- To ensure that **Nigerian companies are given fair opportunities in the bidding processes**, the Board is to approve the key steps of the tendering and contracting process. Nigerian bidders shall be awarded the contracts if their offer is within a margin of 10% against the lowest bidder. The "Joint Qualification System", a database of Nigerian contractors and competences, became operational in 2011.
- **With regards to employment,** up to a mere 5% of the management positions can be granted to expatriates and all junior and intermediate positions have to be taken up by Nigerians. The operators also have to submit annually to the Board a "Technology Transfer Plan" with proposed actions for joint ventures, partnering and licensing agreements with Nigerian companies. In addition, one percent of all contracts awarded in the O&G sector goes to the Nigerian Content Development Fund which is used to guarantee lending to Nigerian companies and to finance infrastructure developments and training programs operated by the Board. The Nigerian Content Development Fund had grown to $350m at the end of 2013.

- *Implementation*

The clear challenge is to make sure these new obligations are fulfilled. The Act provides that non-compliance can be sanctioned with a penalty of 5% of the value of the project in which the offence is committed. The project can even be cancelled. The open question is whether the Board will actually use these penalties.

At this stage, it is difficult to assess whether the desired goal is fully achieved, but Nigerian officials are positive about the results of the reform. In November 2013, Ernest Nwapa, chairman of the Board reported that $5bn additional investments had been attracted to the economy and 38,000 jobs had been created since 2009[5]. O&G companies also report an increase of local content. **Shell for instance indicates that, within its local subsidiaries, the proportion of employees who are Nigerians reached 95% in 2013 (90% in 2010). ENI reports that the share of procurement from the Nigerian market was of 67% in Nigeria in 2011 and reached 94% in 2013.**[6] Another element suggesting that the approach proves satisfactory is that Nigeria is about to duplicate this approach with a new bill introducing local content requirements in the construction sector.

Nigeria is not an isolated example. **It is estimated that 90% of resource-rich countries have now legal provisions on local content** (Mc Kinsey Global Institute, 2013) and the trend is to move from soft regulation to

[4] The Act defines Nigerian Content as *"the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilization of Nigerian human, material resources and services in the Nigerian oil and gas industry*".

[5] http://www.thisdaylive.com/articles/nwapa-nigerian-content-attracted-5bn-investment-in-4-years/165216/

[6] Shell's Sustainability Reports of 2013 and 2010, ENI's annual reports of 2013 and 2011

more prescriptive and detailed provisions. For instance, Indonesia[7], Kazakhstan[8] and Brazil[9] are "mature" oil producing countries which have significantly strengthened their local content legislation since 2000. Similarly, countries that are new on the O&G scene such as Ghana, Uganda, Tanzania and Mozambique have started to define a legal framework on local content even before the start of production. Consultancy firms alert their clients that "**the rules of the games have changed"** [10]**because local content is now key for the O&G companies to succeed, especially in the developing world.**

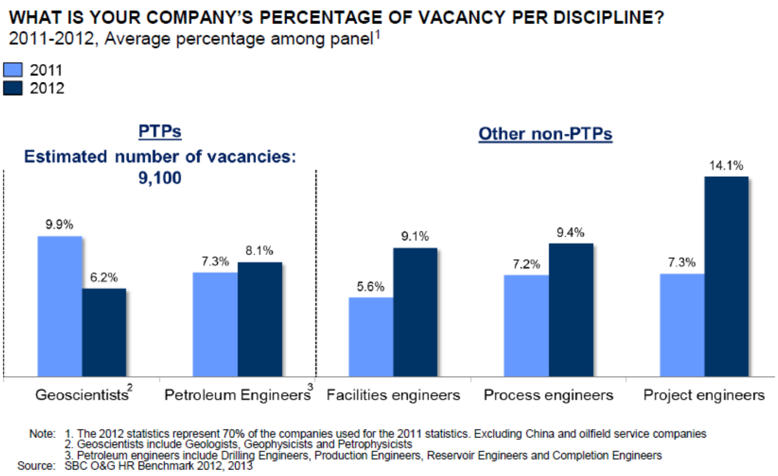
b) O&G companies committing to the promotion of local content

Putting aside well-established global supply networks in favor of local manpower and local suppliers will generate switching costs. It can also appear risky for O&G companies because it can induce possible delays in project implementation and higher costs of production. However, this short term vision has changed, as **there seems to be wide consensus that O&G companies have a lot to gain from a better integration in the hosting countries.**

- *The benefits O&G companies can derive from local content*

Favoring local participation can actually be seen as an investment. In addition to the fact that expatriating professionals is very costly, **the workforce of the O&G companies worldwide is aging and the industry is now facing a shortage in terms of skills** (ILO, 2012). The survey realized by Schlumberger Business Consulting HR Benchmark in 2013 shows the growing needs of the O&G industry, in particular for engineering positions. This scarcity of resources is leading to significant delays and even to the abandoning of projects in different regions, notably in Sub Saharan Africa.

Figure 3: Need for engineers in the O&G industry



The survey gathered 47 companies (majors, NOCs and Independents) and 147 participants.
PTP: Petrotechnical Professionals: population of engineers and geoscientists dedicated to petroleum engineering and the geosciences in E&P companies, from entry to senior level.
Source: Schlumberger Business Consulting

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[7] "Technical Guidance of Usage of Local Production" Regulation 49 issued by the Indonesian Ministry of Industry in 2009
[8] Amendments to Kazakhstan's energy legislation in 2007 and local content requirements introduced in the "Law of the Republic of Kazakhstan No. 223-IV" of 2009
[9] Local content requirements included in the bidding rounds organized by Brazil since 2002
[10] Accenture, "Developing Local Content Programs: Insight from Accenture to global players to achieve high performance in today's competitive energy landscape", 2008

With this growing need for human resources, the O&G industries have a clear interest in developing the local workforce today. Looking at supply chain management, it is also clear that once local capacities are developed to meet the standards of the industry, then market players will improve their performance by reducing the transportation costs.

In addition to these direct cost saving opportunities, bringing benefits to the local population is of course an essential prerequisite for sustained operations in the hosting countries. With NOCs from emerging countries now expanding their activities abroad and competition increasing between O&G players, all companies have to make robust proposals in terms of social and economic impact on their hosting countries if they want to secure their license to operate (Accenture, 2008). More importantly, **promoting involvement of the local population in the O&G industry is a way to create and maintain good relations and therefore to reduce the business risks for foreign companies**. In this regard, it needs to be ensured that not only home nationals are provided new opportunities, but also specifically the local communities in the area where the O&G activities are performed since they are the most impacted and legitimately expect compensations for adverse effects.

It is also evident that the media and non-governmental organizations are looking very closely at how international O&G companies operate. These companies have to maintain their credibility in front of their shareholders, governments and public opinion by acting responsibly in the hosting countries. While this is not new, it is certainly gaining importance due to increased telecommunication and the fact that local communities can more easily voice their concerns. With companies increasingly concerned about their Corporate Social Responsibility, efforts to bring local benefits are put higher up in the agenda.

- *O&G companies putting a stronger focus on local content*

In the recent years, **all major O&G companies have adopted a more structured approach to the creation of value for the hosting countries.** In addition to reporting on the social investments carried out in areas where they are doing business, companies now put forward comprehensive strategies to increase the socio-economic benefits from their activities. All of them have developed dedicated web pages where they explain how local content is made a priority and illustrate the progress achieved with concrete examples.[11] Beyond the communication aspects, new positions dedicated to local content have been introduced at headquarters. In the case of Exxon Mobil, an internal document called "National Content Guidelines, Strategies and Best Practices" has been elaborated to provide models and tools and identify the responsibilities at each level so that the local content dimension is now "embedded into [their] daily processes, procedures and plans".[12] Another example is provided by ENI which has included local content development requirements in the new "procurement management system guidelines" issued in 2013 in order to provide advice to the procurement services in each region where ENI is operating.[13]

Describing the change in business practices, Total's late CEO Christophe de Margerie explained that *"we [Total] have completely rethought the way we do things, so that local content is now integrated into our project very early in the design phase".*[14] O&G companies do not insist on their level of compliance with specific local

[11] See for example: BP (http://www.bp.com/en/global/corporate/sustainability/society/Supporting-development-in-societies-where-we-work.html), ENI (http://www.eni.com/en_IT/sustainability/communities/local-content/local-content.shtml), Exxon Mobil (http://corporate.exxonmobil.com/en/community/local-economic-development), Shell (http://www.shell.com/global/environment-society/society/our-neighbours/hiring-locally.html), Total (http://www.total.com/en/society-environment/shared-development/synergies-local-economies/promoting-jobs-and-local-content)
[12] http://corporate.exxonmobil.com/~/media/Brochures/2008/news_pub_nc.pdf
[13] http://www.eni.com/en_IT/attachments/sostenibilita/pdf/eni_for_2013.pdf
[14] http://www.total.com/sites/default/files/atoms/files/csr-report-2013.pdf

content requirements, but rather present their actions as part of a deliberate and comprehensive approach, showing that the local content dimension is now deeply rooted in their strategy, business model and day-to-day operations.

c) Increased sharing of experiences

With governments implementing more complex requirements and O&G companies showing that they are adapting their practices to take up the challenge, local content has clearly become a topical issue.

- *Institutional cooperation on how to design local content policies*

The recent developments regarding local content policies have been addressed in many reports from the international institutions lately.[15] All with a different approach, these reports tend to draw lessons from various experiences on local content regulations with a view to promoting recommendations on how to make these more efficient. It is clear that each country represents a unique set of conditions and circumstances and that there is no "one-size-fits-all". However, progress is made in developing countries and not just in countries with a pre-existing robust industry. Giving a presentation at a World Bank conference on local content in 2013, a representative from the Norwegian Agency for Development Cooperation[16] noted that progresses are being achieved in terms of economic growth in African resource rich countries. He argued that natural resources can lead to positive results when proper account is taken for economic, environmental and social factors within an intergenerational perspective and suggested that local content could be part of this strategy. These considerations reinforce the case for sharing experiences between countries. In this regard, **the Nigerian Content Development and Monitoring Board reports on increased cooperation with the Republic of Congo and Kenya to share the Nigerian experience and see how it can be used for the design of local content policies in these two countries.**[17]

- *Spreading the knowledge on how business practices should be adapted*

Local content is also an area of experience sharing for the private sector. IPIECA, the O&G industry association for environmental and social issues, issued in 2011 a guidance document on local content strategies and consultant firms drawing the attention of their clients to the fact that local content is *"taking on new urgency for companies operating in developing countries".*[18] Their recommendations aim at ensuring that the more stringent provisions on local content are not a constraint for the companies but rather an **opportunity to enhance their performance**. Their main message is that resisting the change would be a deadlock for O&G companies. They are providing advice on how to embrace the change and best adapt their business practices.

In September 2014, the 10th annual "global local content summit" took place in London.[19] The event was sponsored by O&G companies, service providers and consultancy firms and it aimed at presenting the most recent case studies on all the major hydrocarbon producing regions and at discussing key implementation issues, such as the design of performance metrics. It shows that local content is **now an important theme for**

[15] See for example : UNDP (2011), "Getting it right ", UNCTAD (2012), "Extractive industries: optimizing value retention in host countries", World Bank (2013), "Local content practices in the oil and gas sector"
[16] http://www.worldbank.org/content/dam/Worldbank/Event/EI%20%20Local%20Content/1%20National%20Local%20Content%20Development%20Svoldal%20Session%201%20Day%201.pptx
[17] http://www.ncdmb.gov.ng/index.php/news-update/116-kenya-congo-move-to-adopt-nigeria-s-oil-sector-local-content-policy
[18] See for example: Strategy& (2014), "Local content in oil and gas – recasting the conversation"
[19] http://www.localcontentsummit.com/

all stakeholders involved in extractive activities, who see merit in sharing their experiences, discussing the successes and failures and jointly identifying the conditions leading to better outcomes.

III. How to make local content work and maximize benefits for the population

With the number of initiatives growing and local content becoming a key research area, there is an emerging consensus on **key principles that contribute to making local content strategies work.**

a) Developing a collaborative approach

Defining targets to be achieved in a certain number of years is unlikely to prove efficient if this initiative is not complemented with an extensive analysis of the local content potential and a detailed strategy on how to maximize this potential. This being said, because governments will not have the full picture alone, it is important for them to set up a dialogue with the O&G companies. In fact, the latter also have a clear interest in getting involved in the discussion and providing technical advice to public authorities as a way to ensure that the local content requirements will be fit for purpose and will not generate unbearable constraints for their business activities. A collaborative approach should therefore be built on this convergence of interests between the state and the private sector.

- *Jointly assessing existing capacities against the needs of the O&G companies*

To make sure the local content policy can work, the O&G companies need to give clarity on their quantitative and qualitative needs in terms of manpower and procurement. The second step is to look at whether the country already has the capabilities to respond to these needs. Studying the match between needs and available resources will help narrowing down the potential for immediate local participation and identifying the gaps which will need to be filled over time with specific programs. **This approach has recently been implemented in Uganda. CNOOC Uganda Limited, Total E&P Uganda and Tullow Uganda Operations Pty Ltd** have carried out an extensive “Industrial Baseline Survey” and presented their results in a handbook which was published in May 2014.[20] This document points out that the oil industry in Uganda could create between 11,000 to 13,000 direct jobs and between 100,000 to 150,000 jobs during the construction phase. In addition to highlighting these opportunities for Ugandans, the survey shows that a shortage of Ugandan manpower is likely to appear for certain positions such as civil craftsmen, drivers and mechanical technicians. Another difficulty raised is that the education system in Uganda is not yet delivering the certifications which would match the industry’s standards for technical and engineering positions. With regards to the local supply chain, 25 sectors are identified as having a high potential for local content, but the survey underlines that all these sectors will need to improve the quality of their management standards and of their delivery in order to qualify in the tendering procedures. With this detailed analysis, expectations can be properly sized and the areas where actions need to be taken are also more clearly identified. **The three joint venture partners announced that they would work in cooperation with the Ugandan authorities to develop an implementation strategy for local capacity building in view of getting prepared for the start of development and production in a few years.**

[20] CNOOC, Tullow, Total (2014), “Planning for the future: a demand and supply study on the oil and gas sector in Uganda”

- *Establishing connections between companies and local business partners*

In addition to collaborating on the general design of the local content policy, the creation of a local supply chain requires that information is shared between the O&G companies and all potential suppliers. On the one hand, O&G companies need to be aware of the existence of companies that they could hire to supply goods and services, and, on the other hand, these companies need to know well in advance the procurement schedule and the required standards. Various initiatives are taken to foster these business connections. **The "Joint Qualification System" established in Nigeria in 2011 provides a comprehensive database of Nigerian contractors and competencies.** In some cases, the O&G companies are also taking the lead. For instance, **BP reports that its subsidiary in Azerbaijan launched in 2013 "compliance awareness classes" to which twenty local companies from various sectors participated.** The objective was to inform these potential contractors on the contractual requirements of BP, so they are best prepared for the future tendering procedures[21]. Likewise, **ENI tries to enhance supplier development activities in Mozambique by conducting before each tender a market analysis on Mozambican firms** which could be the vendor's list[22]. The O&G companies have long-established business standards and the offers formulated by the local firms may not always meet these standards from the beginning. A way to lift such obstacles can be to break down the usual contracts into smaller orders as **Petrobras is doing to support its program for eight FPSO units to be built in Rio Grande, in southern Brazil.**[23]

- *Agreeing on measurement principles*

Finally, the O&G companies and the relevant public authorities have to cooperate on monitoring the effects of the local content strategies. As mentioned earlier, defining what qualifies as local is a challenge but there needs to be an **agreement on measurement principles in order for the successes and failures can be assessed.** Significant work has been done in this area by the Brazilian regulator for the oil sector (Agencia Nacional do Petroleo, ANP). In 2007, a "local content certification system" was established in order to collect data on the origin of the goods and services supplied. The O&G companies have to rely on the expertise of ANP-accredited firms carrying out the assessment and delivering the certificates, which can then be presented to ANP as a measurement of the companies' performance in terms of local content. With such agreed compliance monitoring process, the public authorities can verify whether the O&G companies have met their obligations but they can also adapt the design of their policy tools for the future.

b) Taking a long-term view

Past experiences have also shown that there is no quick-fix solution to promote local participation. Especially in situations where the existing industrial base is narrow, O&G companies will have difficulties finding applicants with the appropriate competences and suppliers meeting the industry's standards. These difficulties will reduce over time as capabilities will be reinforced and the business connections will be made easier.

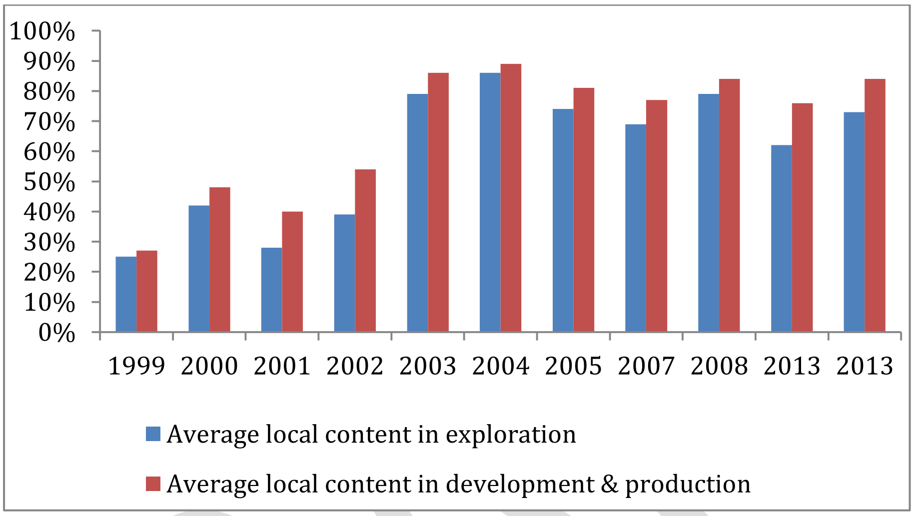
- *Setting targets that are within reach*

Setting **unrealistic local content targets** could actually be harmful to the hosting country, because it **could undermine the competitiveness of the sector to an extent that foreign investments are reconsidered**. Gradually building up the local content share in O&G related activities seems to be the relevant approach, but

[21] BP in Azerbaijan Sustainability Report 2013
[22] ENI for 2013 Report
[23] Redo Barroso H., Macedo M. (2010), "Local content in Brazilian oil industry", T&B Petroleum #28

defining the appropriate rate of progress is still a complex task. In the case of Brazil, the share of local content to which O&G companies are ready to commit is one of the judgment criteria in the bidding rounds for oil concessions. This ranking system is in place since the first bidding round organized in 1999. As of 2003, the ANP introduced minimum shares of local content, which are defined according to the location of the oil block and for each project stage. These minimum requirements have been stepped up from one bidding round to the next and the O&G companies have reinforced their commitments along the same lines.

Figure 4: Average local content commitments taken by O&G companies in the bidding rounds organized in Brazil for oil blocks



Source: website of the Superintendency of Licensing Rounds Promotion

There is broad consensus that local participation has increased in the O&G activities in Brazil and that the country has gained a strong expertise in deep-water operations. However, there are concerns on whether the **local supply chain has sufficient capacity to meet the growing local content requirements** at a time when high investments are to be carried out. It was observed that the shipyard industry was increasingly outsourcing internationally the production of certain modules and hulls to meet the time constraints (DNB ASA, 2014). Before the launch of the 11th bidding round in 2013, Petrobras formally responded to ANP's public consultation on the draft tender protocol and requested that the requirements for local content were relaxed for 34 items, compared to what was requested for the latest round of 2008. Petrobras justified its request by explaining that "the minimum percentages of local content for the cited items and subitems cannot be met by the national supply chain"[24]. This request was not heard by ANP at the time. The **local content challenge may become bigger now that Brazil is about to develop its pre-salt reserves because exploration in such ultra-deep fields is highly complex.** For the inaugural pre-salt auction organized in October 2013 for the Libra field, only 11 companies qualified to participate in the auction. In the end, only one bid was above the minimum thresholds in terms of profit oil share and local content. Among other explanations for this relative shortage of bidders, the high local content requirements (37% in the exploration phase, 55% in the development phase and 59% after 2022) may have played a role and it has been identified as a risk of delays and costs for the winning consortium (Ernst&Young, 2013).

[24] Petrobras - FORMULÁRIO DE COMENTÁRIOS E SUGESTÕES, CONSULTA PÚBLICA Nº 02/2013 http://www.brasil-rounds.gov.br/round11/ingles_r11/audiencia.asp

- *Using sunset clauses to raise competitiveness of the domestic economy*

While it is of utmost importance to gradually build-up the local content share, **getting ready to phase out the local content legislation is also essential.** Requirements on local content follow the infant industry argument and it means that a strategy has to be in place to ensure the industry becomes mature and globally competitive. In the first place, efficiency needs to be promoted so that investments in the hosting country are not reduced due to unbearable additional costs for the operating companies. In the second place, building a competitive domestic economy is a way to prepare for the time when the natural resources will be exhausted. If competitive enough, the local firms will then remain contractors for the O&G companies operating elsewhere in the world. In this perspective, local firms need to be given clarity on how long the protection will be applied and on how they will progressively be exposed to international competition. In addition, knowledge and technology spillovers have to be encouraged during the time O&G companies are operating in the country. This can be done through fiscal incentives for the O&G companies to invest in R&D in-country. **In Brazil for instance, ANP requires that at least 1% of the O&G companies' gross revenue is invested in R&D programs related to oil and gas**. Half can be carried out by the companies themselves in Brazil and the rest goes to university or research institutes' programs. In addition to building internationally competitive service providers, re-employment possibilities have to be explored. In most projects, the construction phase is more labor-intensive compared to the development and production phase, meaning that employment will peak and then decrease to a lower permanent rate. This risk is pointed out in the handbook prepared by CNOOC, Total and Tullow for the promotion of local content in Uganda**. The joint venture partners draw attention to the fact that 80% of the jobs created will only last during the construction phase, which implies that transfers to other sectors or other countries will need to be considered for the post-peak period. These challenges show that without anticipation, local content strategies are unlikely to trigger sustainable economic development in the hosting country.**

c) Creating an enabling environment

Increasing local participation in the O&G activities is more likely to happen if the local content strategy is part of a broader approach to development and of a sound governance. An enabling environment needs to be put in place for these economic linkages to develop and both public authorities and the O&G companies can provide significant contributions in this area.

- *Building up skills*

As mentioned earlier, finding applicants with the relevant qualifications can be a challenge and it is clear that investing in education will favor a better integration of manpower in the O&G related activities. Initiatives to fill the competence gap can be taken at the national level, as in Brazil with the creation of PROMINP (Programa de Mobilização da Indústria Nacional de Petróleo e Gás Natural) in 2003. The program is run by Petrobras and the national development bank (BNDES) and provides training to the local professionals. The O&G companies are also engaging in human capacity building in the countries where they operate. **Various examples can be found as with ENI reporting that they have established a partnership called "Programma 200" with the University in Maputo.**[25] The aim is that 200 Mozambican graduates engage in a multidisciplinary training program or on-site training in the O&G sector abroad. Likewise, **Petronas reports that it awards scholarships to South**

[25] ENI for 2013 Report

Sudanese for them to study at the Universiti Teknologi Petronas in Malaysia and to follow six months industrial training programs on operational sites[26].

- *Supporting local entrepreneurs*

Local suppliers need support as well. One aspect that is often an obstacle for them to develop their activity and become contractors is access to finance. In Nigeria, this aspect is tackled via the Nigerian Content Development Fund which is used to guarantee lending to local companies. The O&G companies are also active in this area. For instance, **Shell reports that it is working with five Nigerian banks which offer loans under favorable terms to Shell's suppliers.**[27] In 2013, 39 contractors had benefited from loans worth $700 million in total. The support can also extend to advice on how local firms could develop their business in view of becoming suppliers to the O&G companies. **In Papua New Guinea, BP reports that it has been organizing mentoring sessions and workshops for more than 500 local firms since 2006.**[28]

- *Create robust infrastructures and facilitate access to energy*

Suppliers can only produce goods and services meeting high standards if they can rely on functioning infrastructures to perform their activities. Investing in infrastructures is a key enabler for the domestic economy. In this respect, efforts to enhance access to energy are truly beneficial for development and it is an area where the O&G companies can provide a strong contribution by using a share of the resource produced to fuel power generation plants. **ENI has implemented a project of this type in the Republic of Congo, in the M'Boundi area. In 2010, ENI built an electric power station with an installed capacity of 300 MW.**[29] This station and another one in the area are now fueled by gas extracted by ENI from the M'Boundi field and they represent 60% of the installed capacity in Congo. In addition, ENI promotes electrification for the use of schools, health centers or the supply of drinking water. This is part of its program called Integrated Hinda Project (PIH), which aims at improving the living conditions of the inhabitants of the M'Boundi area. **With such initiatives, the O&G companies can build upon their expertise and the hosting country can actually make use of its natural resources at the benefit of its population.**

CONCLUSION

Local content policies are often seen as an industrialization driver for O&G producing countries, providing employment to the local communities, accelerating the transfer of skills and technologies and strengthening entrepreneurship. Almost all O&G producing countries have been implementing local content policies and the trend is toward strengthening these legal frameworks.

Likewise, these policies have become a key element for O&G companies, in particular to obtain their social license to operate and favor local acceptability. It is clear that a growing emphasis is put on the promotion of local content but the analysis in this paper shows that the outcomes can be very different and success is not always guaranteed. The design of local content policies should take into account national development priorities, the industrial basis, the local infrastructure, the regulatory and financial framework and the quality of the institutions. These policies should be developed in a long term perspective, with the definition of realistic targets adapted to the local context, in order to avoid heavy inefficiencies. **The regular dialogue**

[26] Petronas Sustainability Report 2013
[27] Shell Sustainability Report 2013
[28] BP Sustainability Review 2013
[29] ENI for 2013 Report

between the O&G companies and the governments of the hosting countries is a key factor for success, in view of jointly assessing the needs and the local potential and thus better designing the local content strategy.

Local content policies should not be regarded as stand-alone policies. To be successful, they should be part of a global approach of the management of O&G resources and of a wide strategy of transparency and good governance. In this regard, IGU could provide a valuable input by working on the potential incorporation of local content into the EITI process. This option should be further explored, as it brings already to the table all the stakeholders - civil society, companies, international institutions and governments. The use of the EITI process could facilitate the dialogue between all the actors in the sharing of experiences and the development of collaborative approaches. It could also be the right platform to work on common standardized metrics for quantifying levels of local content in view of assessing the efficiency of local content policies implementation. The EITI innovative multi-stakeholders approach revealed the importance of adopting collective approaches to the governance of O&G resources. **Building on its wide cooperation network within the gas industry, IGU could encourage the development of such information-sharing platform and hence favor future progress in local content policies.**

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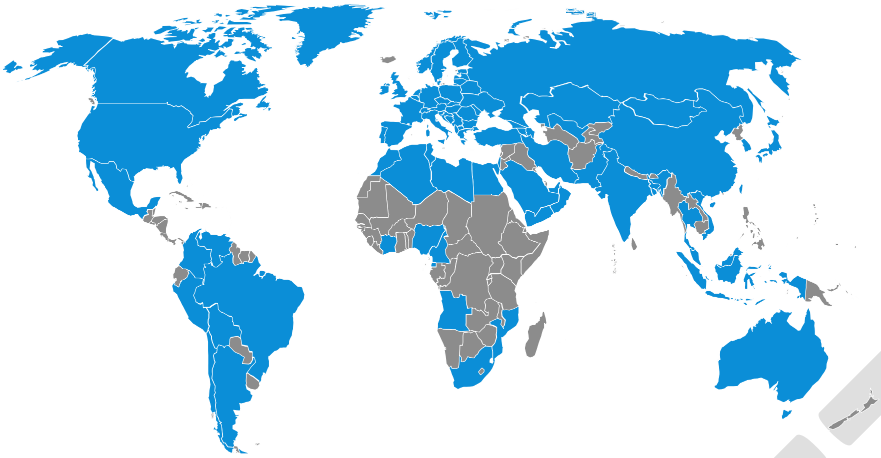

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