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POLICY AND REGULATORY FRAMEWORK
TO ENHANCE LOCAL CONTENT
Yardsticks and Best Practice

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ABSTRACT

The focus of this paper is on how to design a policy to enhance national participation in the local oil and gas industry in a way that actually turns out the benefit the host country of these resources. The underlying idea of the policy approach we recommend is to create a sound business climate, to encourage oil companies to compete in involving domestic value generating activities and firms, and to let their track record in this respect influence their rights to future oil and gas. Doing so on a competitive basis, which also allows for preferential treatment of efforts to develop local firms and local labour, should contribute positively to the development of local industrial capacity in relation to the domestic oil and gas industry. This will, in turn, most likely spin off positively to industrial development in other areas of the host country economy as well, which means that also industrial sectors other than oil and gas related industry should benefit. Altogether, this means that the chances for the host country to expand and realize its industrial potential ought to become significantly strengthened.

POLICY AND REGULATORY FRAMEWORK TO ENHANCE LOCAL CONTENT

Yardsticks and Best Practice[1]

OIL AND GAS – A BLESSING OR CURSE?

Huge expectations quite naturally arise when a country discovers a great potential of valuable natural resources as oil and gas. It is easily assumed that this will provide the country with revenues which will ease financial constraints on public budgets, and that the efforts to extract these resources will allow national entrepreneurs and business enterprises to prosper and the domestic economy to grow.

These expectations arise despite the fact that several studies indicate that countries with an abundance of national resources on average seem to experience less economic growth and worse development of outcomes than countries with fewer natural resources. When controlling for the income level of the country, countries that are highly dependent on revenues from natural resources, generally score lower on the UN Human Development Index and on economic growth, exhibit greater corruption, have a greater probability of internal violent conflicts, and have a larger share of the population in poverty than countries with diverse sources of wealth (Sachs and Warner, 1995; Leite and Weidmann, 1999; Papyrakis and Gerlagh, 2004).

This is what is referred to as the resource curse (Sachs and Warner, 2001), or the paradox of plenty. It may be explained in many different ways. Extraction of non-renewable natural resources with a significant resource rent often represents a windfall gain of great magnitude for the host country. Huge and sudden revenues of this kind are likely to cause the real exchange rate of the national currency to appreciate, which will weaken the competitiveness of non-resource based sectors of the economy. They furthermore tend to bring high volatility in government revenues due to oil price fluctuations, which easily implies disastrous stop and go policies. Thus, revenues and economic activities related to oil and gas poses specific challenges to policy that generally are demanding to deal with, and in some cases may lead to poorer performance than if the natural resources had not been discovered.

When empirical studies as referred to document that huge exports of natural resources seem to correlate with poor social and economic performance, causation is not really analyzed. In fact, there is no convincing theoretical argument that huge endowments of natural resources are bound to lead to poor social and economic performance. This is not supported by empirical evidence either. Some countries with large natural resources perform well; others do not. Thus, it is more likely to be the other way around. Bad policies

[1] This paper is written as part of an ongoing project focusing on how to enhance local content in Uganda's oil and gas. This project will be concluded in April 2011. Hence, views and conclusions in this paper represent work in progress and may be revised and improved as part of the process to finalize the project.

and obstructing social conflicts easily result in heavy dependence on exports of the natural resources, and in turn the poor performance of the society and the national economy. Thus, rich endowments of natural resources is not necessarily a curse to the social and economic development of a country, neither does it have to be a blessing. That will depend on how the country deals with the challenges and opportunities which follows from possessing such resources (Gylfason, 2001; Iimi, 2007). It is how institutions, regulations and politics are constructed and operated, that will decide. Thus, countries that are in the planning stages of the petroleum development before production starts, have the opportunity to address and handle these challenges in a sensible way.

In this paper we will discuss and describe what it is essential to focus on and to be aware of in order to turn the endowment of natural resources to a blessing for a country. This discussion is based on lessons that may be drawn from the experience of resource rich countries internationally, and on the literature addressing the issue of industrial development and economic growth. It is argued that a viable policy has to build on a comprehensive approach to the drivers of national wealth, and on the creation of industrial linkages between domestic resources and leading international companies that invest to undertake business activities in the country. Politics ought to be concerned with industrial capacity building and private sector development. Ambitions with regard to national participation in the oil industry and efforts that are taken to achieve them, may serve as a means in this respect. In the oil industry, the key is to create a division of labor between government and oil companies, where oil companies adhere to and are held accountable for expanding industrial capacity in the host country, while the government stay dedicated to the task of industrial capacity building.

GOVERNMENT TAKE, INDUSTRIAL CAPACITY BUILDING AND ECONOMIC GROWTH

When oil and gas are discovered in a country, the country is not likely to have the industrial capacity that is needed to generate the market value of these resources. The oil industry is an old industry with more than a century of industrial experience. US based firms have traditionally dominated core activities within the industry all around the world, supplemented with firms from some of the other major industrial countries, as UK and France. Today there are more actors on the scene, of which some also originate in smaller industrialized countries and emerging economies. This nevertheless means that a new host country for oil and gas will depend heavily on the competence of foreign firms.

Oil and gas are natural resources of high value, and a significant resource rent may be expected in the industry. A resource rent means that oil may be sold at a price that allows the industry to generate profits which exceed the yield that may be expected from industrial activities in general. The size of this oil rent will, of course, vary with the oil price and the costs to extract and market the resources. It nevertheless raises the question as to how the oil rent ought to be distributed between the companies extracting the resources and the society in the country where the resources are located.

The government of a country is the institution to act on behalf of the society in this respect, and the share of the resource rent that the country is able to capture and channel through government budgets, is referred to as government take. Government take represents taxation of the oil industry that exceeds taxes put on industrial activity in general, and is the source of additional revenue for government budgets.

Thus, one way of maximizing host country benefits from oil and gas, is to get as high government revenues from the industry as possible, and to use these revenues sensibly to enhance value generation in the nation.[2] This obviously does not mean that extremely high tax rates will maximize government revenues from the industry. Taxation of the oil industry has to take into consideration that relatively high tax rates tend to attract less efficient firms. Less efficient firms generate a smaller oil rent than more efficient firms. Thus, the size of government take does not have to increase with higher tax rates.

Besides the resource rent aspect of the oil industry oil and gas activities in a country also attract leading international companies in many different industries related to oil and gas. This offers an additional opportunity that frequently is referred to as *local content*. Local content is a concept drawing attention to the share of goods and services that are needed to explore for oil and gas, and later to develop and extract these resources, that is produced in the host country by firms with an infrastructure in the country, and by using host country labour. It means value generation in the host country instead of imports. In this sense, *national content* is a synonym term to local content.

The industrial justification for considering local content is based on the fact that discoveries of oil and gas will attract the interest of leading companies in the petroleum industry world-wide. This offers a unique opportunity for the host country of such resources to enforce policies to enhance industrial development domestically. Industrial development is a learning process, where capacity and capabilities expand through a process of solving challenging tasks in collaboration with internationally leading competence. Thus, countries with large endowments of oil and gas are in a position to outline a policy that may benefit the country at large. This is in accordance with the recommendation from UNCTAD in the World Investment Report for 2001, which advocated that industrial development will be

[2] In the discussions of government revenues from oil and gas one has to be aware that these revenues are from non-renewable resources, i.e these revenues are not sustainable. This has triggered the discussion of a heritage fund to prevent that current generations consume at the expense of future generations. Norway is often referred to in this respect, and some recommend a heritage fund to be an element in the policy for new oil producing countries. One should, however, be aware that it took Norway more than 20 years of oil production before such a heritage fund was decided, and almost 30 years before revenues were channeled to this fund. For countries where poverty is a great challenge, it seems awkward to suggest such a fund. If the spending of these revenues can be used to generate industrial capacity that can lift the population out of poverty, it is much more important than to extend the period of poverty because you should think of future generations. Future generations are best served by creating industrial capacity that on a broad basis may generate sustainable income and wealth.

enhanced by promoting industrial linkages between domestic resources and leading international companies that invest in undertaking business activities in the country. It is a matter of attracting foreign direct investments, and to combine these with the use of domestic labour and collaboration with indigenous companies.

A policy to enhance local content assumes that the activities connected to oil and gas will contribute to the building of industrial capacity, which is necessary to generate industrial dynamics and spinoffs to other sectors of the society. Even though local content generally implies higher costs in the short run, and in consequence lower revenues to the government from the oil industry, it is argued that it should pay off in the longer run by contributing to higher growth rates than what would have been achievable if the industrial collaboration leading to local capacity building had not taken place. The purpose of this paper is to look closer into how a successful development with reference to local content in the oil industry may be achieved.

HUGE VARIATIONS IN THE OUTCOME OF LOCAL CONTENT POLICIES

There is no guarantee that ambitions and efforts to enhance local content actually will benefit the development of the host country economy. Experience from countries enforcing local content requirements around the world is, to put it mildly, quite mixed.

Nordås et al. (2003) examined the experience from six countries. The most successful story is from Norway, where firms have developed industrial capacity which now serves the oil and gas industry all around the world. The Norwegian experience is, however, almost impossible to replicate (Heum, 2008). Norway was an industrialized economy when oil and gas was discovered, with well functioning democratic institutions. Industrial capacity was already broadly developed in areas which rather easily could be transformed and extended into the oil and gas industry, and which in addition could entry at a time when there was a technological window of opportunity for newcomers.

The experience from Nigeria represents the other end of the scale. Even though oil and gas activities in Nigeria started ten years before they started in Norway, firms in Nigeria only to a limited extent participate in the oil industry on a competitive basis. The government has not lacked ambitions for local content. These expectations have, however, been unrealistically high, which have been a factor behind the experienced corruption and profit opportunities for a few. This may even have contributed negatively to the development of the Nigerian economy because traditional industries have been crowded out while a significant share of the earnings have been transferred to savings and consumption abroad (Nordås et al., 2003 and Heum et al., 2003). In contrast to the other countries, Nigeria never had or was able to develop a manufacturing sector, which seems to be a prerequisite to succeed.

Indonesia has, as Nigeria, been subject to rather extensive corruption in connection with the oil and gas activities. Contrary to Nigeria, however, these revenues have to a much larger extent been reinvested in domestically, contributing to industrial development, both in connection with oil and gas and in other areas. This development has taken place while Indonesia has been rather open to foreign investors.

Malaysia has also been able to increase local content and to expand domestic manufacturing while oil and gas activities have taken place. The national oil company, Petronas, has played an important role, and the domestic activities have increasingly been exposed to foreign competition.

Mexico and Brazil represents countries with strong national oil companies, Pemex and Petrobras respectively, and where local content has been built by shutting out foreign investors. Local content has been quite high in connection with the oil and gas activities in both countries. Until the early 2000s, however, neither really succeeded in building industrial capacity that proved competitive by international standards, and probably consumed instead of generating wealth. Since then, Brazil has worked quite systematically to strengthen industrial capacity among firms with an infrastructure in Brazil, while allowing foreign competition in the domestic market. This seems to be very promising, while Mexico still is lagging behind.

Experience from oil and gas activities in these six countries clearly reveal that if the policy to enhance local content is badly enforced, it may do worse to the economic development of the host country than if local content had not been an issue. Even conducted properly, one has to be aware that there are extra costs associated with local content expansion. These extra costs can only be justified if they actually turn out to serve as investments which will pay off in the future. Local content ambitions contain severe industrial challenges that need to be solved.

CHALLENGES FACING LOCAL CAPACITY BUILDING IN OIL AND GAS

The oil industry is a well-established industry on the global scene. It consists of a few major oil companies, which are present almost all over the world, and a large number of mainly nationally based oil companies. They have numerous suppliers, offering a wide variety of goods and services, from the very sophisticated to more standardized products. Some are global players as the oil majors; others are more locally based. Contracts between the oil companies and their suppliers frequently involve a hierarchy, or a chain, of subcontractors. It is these supply chains that local firms have to break into if the ambitions for business development based on petroleum activities are to be met. To succeed new entrants have to meet the international standards that are required. This is a huge industrial challenge, and it is a fact that newcomers are more likely to succeed in oil related activities outside the core of the industry.

Another challenge is that a focus on industrial capacity building based on activities in the oil industry, also will have an impact on other sectors of the host country economy. Ambitions for national participation will most likely imply a need for extensive local capacity building in many different areas. It concerns capacity building in different parts of the government, and may be even a separate petroleum authority, in addition to capacity building that follows from ambitions for national participation of the local business sector, in building a national oil company, and with regard to manning of the domestic operations of foreign firms. To the extent adequate capacity is a scarce resource within the labour force, which frequently is the case, other sectors of the economy will easily suffer. This means that it is crucial to pay attention as to how the ambitions for national participation in the oil industry are likely to affect the diversity of the economy. No one is really gaining if all industrial capacity building takes place in one sector only. That would imply to put all eggs in one basket, which will create a vulnerable base for income generation in the society.

The discovery of oil and gas further poses challenges with regard to unrealistic expectations. Oil and gas usually generate huge revenues, but it takes time until these activities really materialize as government revenue. When activities expand, revenues are mostly reinvested, and not really flowing into the government budget. The business opportunities that local content try to grasp, also require time to be realized, because industrial capacity needs to be built and necessary capacity building cannot be achieved overnight. It is also so that the realistic opportunities for local industry are fewer in the phases of exploration and development, than in the phase where the petroleum is extracted and equipment need to be maintained and modified. These opportunities will not, however, occur for several years. Thus, a big challenge is to manage expectations. This challenge concerns the whole set of stakeholders, as the local communities on the sites of the activities, the business community, in the electorate and among politicians. Information to create a realistic understanding seems to be the only viable way to manage such expectations.

TARGETING LOCAL CONTENT IN INDUSTRIAL POLICY

Three questions are essential when considering an industrial policy which aims at targeting local content in the oil and gas industry:

- How local content ought to be defined
- Why local content may be of importance for industrial policy
- What a local content policy should focus on to achieve its ambition

In addition one should be aware of pitfalls which local content policies may entail, and which it is of utmost importance to avoid.

How to define local content

It is important to notice that local industrial development require the use of domestic resources, mainly domestic labour and skills. It may take place in indigenous companies, or companies that are owned by foreigners. This is important, because research from other industries concludes that local content requirements are not very successful in developing an indigenous industrial base, but somewhat more successful in bringing in the primary foreign investors' international suppliers to the host country (Belberfos et al., 2001). According to Nordås et.al. (2003) there are reasons to expect that this is the case for the petroleum industry, too. This means that local content policies should appreciate and encourage foreign firms to collaborate with local companies. In turn, this should be expected to give impulses and generate dynamics that will have positive impacts on the development of indigenous firms.

Since foreign firms will have to play a crucial role, local content should be defined in terms of value addition in the country hosting the petroleum resources, i.e. by employing local staff, local materials, local services and facilities, rather than in terms of ownership of the company performing the value added activities[3]. In a globalized industry a local subsidiary of a multinational can be just as effective in using local inputs and developing capacity and competence in the host country as a company in which domestic citizens hold a majority of the shares. Nordås et al. (2003) point out that this has been the case in Norway and Malaysia where local content has been high and local content has been defined as value added in the host country rather than defined in terms of ownership of the supplier.

Why local content is of importance

The overall concern for industrial policy should be to enhance private sector development in general. Thus, one may ask why the government should bother about industrial development in one particular area, as implied by a policy to enhance local content in connection with upstream oil and gas. Furthermore, one may ask if it is wise to try to increase local content in connection with upstream oil and gas, which anyway is bound to represent industrial activities that easily will come to play a dominant role in the domestic economy.

[3] Value added may be tricky to measure. Thus, in case there are difficulties in getting reliable economic figures, information on employment of national citizens may serve as a proxy. Local contractors and local subcontractors ought to be included.

Such theoretical considerations do not, however, take the mechanisms that actually generate industrial growth into account. Industrial growth is not something that can be decided by politicians, neither does it come out of the blue. It is a result of demanding interplays between established and emerging industrial capabilities, how these may grow when they engage in solving challenging tasks, and how they may strengthen and improve through technology transfer and cooperation with other companies.

In that sense, countries which possess resources of oil and gas may experience a unique opportunity as the domestic petroleum activities provide challenging tasks, which attract the interests of leading international companies. Thus, through local content requirements for the upstream oil and gas industry, domestic resources may be linked to the most prominent firms in their field of business, through which industrial capabilities may be developed locally. Such industrial capacity, even though it is developed through oil and gas projects, may in turn have much broader applications than just for the petroleum sector.

What to focus on to achieve industrial success

Local content can normally only be achieved by enforcing measures which imply some kind of preferential treatment of domestically based firms. The industrial policy should not, however, have its prime focus on protective efforts, but on efforts that can facilitate the participation of domestic firms in the domestic petroleum activities on a competitive basis. This calls for a wide variety of measures where the key component is to build industrial capacity, as well as to ensure that local firms may overcome barriers to entry:

- **Improving local skills and capabilities.** From the comparative study by Nordås et al. (2003) we have seen that measures to develop local supply and service providers need to aim at narrowing the technology gap between domestic and foreign companies. Such measures may be supplier development programs, supporting training, product development, testing and factory auditing, as well as R&D. The composition of these measures, and what they really aim for, will obviously have to depend on the country's industrial base. When the current industrial base is weak, efforts to generate capacity building need to be more fundamental and the time needed to create the necessary industrial capacity will probably be longer.

- **A creative and demanding environment for business development.** Business may face barriers to entry of a local origin, which effectively prevent the enhancement of local content. Such locally generated entry barriers are lack of or poor infrastructure, inefficient business licensing procedures, slow and inefficient pre-qualification and certification procedures, skill shortages, strict regulation on labour migration and lack of access to credit. These are shortcomings that increase costs for local companies enormously, and these are areas where the host country government clearly has a role to play. Focusing on providing and maintaining the necessary infrastructure, improving education and health services and having a transparent regulatory framework would help in making the local supply industry more competitive. Moreover, it would contribute to higher level of welfare in the country.

- **Barriers to entry in the industry.** The oil industry is characterized by closely knit international supply chains combined with widespread use of framework contracts, long-term service contracts and centralized procurement. This obviously constitutes formidable barrier to entry for local suppliers. There is a case for regulation limiting the scope and duration of the contracts and opening for more competitive practices when such contracts are anti-competitive. In any case, there is an option to require that these global suppliers should team up with local firms and to employ local resources. Other market imperfections relate to lack of information and switching costs for the oil majors or the major contractors who already have established relationships with suppliers that provide goods and services to the multinationals globally. At least as far as information on local firms is concerned, the host country government may play a role.

Potential pitfalls when local content is targeted

Protection or preferential treatment of local firms does not ensure industrial successes. In fact, there are several pitfalls to be aware of when promoting a policy of local content, even though some may be less severe if measures to enforce local content employ labour and capital that otherwise would have been unemployed. Altogether, the following pitfalls are observed:

- **Consuming wealth rather than creating value.** When local content is required, it means that local supply and service providers do not win contracts in ordinary market competition. This further means that the cost of local technology is higher than what it would have been from foreign firms. The only reason to accept higher costs from an economic point of view is to consider it as an investment that will pay off in the future. If it is possible to acquire industrial capabilities that will generate more value in the future, higher costs at present may be justified. However, if more value added in the future does not compensate for higher cost at present, there is the risk that the supply industry eats from the oil wealth instead of adding value to it. Furthermore, there is a risk that local suppliers to the oil industry will crowd out other, more viable industries that furthermore have larger potential for employment creation than the upstream petroleum industry and its supply industry. Thus, it is important to pay due regard to cost efficiency, even in a context where local content is in focus.

- **Attracting high cost investors**. Local content requirements identified in other industries seem to create a business environment that is most attractive to less efficient, high-cost investors. This is because the less efficient have the lowest switching costs, i.e. they have less to lose from choosing more expensive suppliers than more efficient producers. Thus, it must be important to assure that the leading international firms continue to choose to participate in the domestic industry.

- **Inferior industry development.** Legislation setting a minimum local content requirement has been common both in the petroleum sector and in other industries. A closely related measure is to legislate that foreign investors, e.g. oil companies, have to source their inputs locally if the price offer from a local supplier is less than a given percent above the lowest foreign bidder. Such legislation may have some unintended and detrimental side effects. A strict focus on legislative requirements alone easily creates a plethora of local short-lived and inefficient companies that thrive on the imperative for local content. Lack of competition, insufficient competence and/or weak regulations furthermore have led to high costs, brought environmental damage, and sub-standard technology. This is why real capacity building is crucial to succeed.

- **Red tape and corruption.** In the case of minimum local content requirements, if the minimum level is beyond the actual capacity of the local industry, waivers will be necessary. This will easily create a situation of bureaucratic delays of operations as applications for exemptions are being processed. It may also prepare the ground for increased corruption aiming at avoiding such delays. No matter how good the intentions behind the high ambitions may have been, if they are unrealistic and clearly unachievable, they prepare the ground for continuous, and may be increasing, delays and corruption. Thus, absolute minimum levels of local content ought to be avoided, and particularly when set way above levels that can realistically be achieved. Furthermore, transparency with regard to revenues and revenue spending is of utmost importance.

The lesson to be drawn from this pool of pitfalls is that local content does not necessarily have to benefit industrial growth or national wealth. It will only benefit the society if the industrial development is competitive by international standards, which means that the participating companies in the end will have to pass the test of the market. If not, requirements of local content will most likely only benefit some individuals at the expense of the society.

To avoid such pitfalls ambitions with regard to local content should be directed towards the factors that really may contribute to value generating industrial activities. Thus, a policy to enhance industrial development based on petroleum activities, will have to pay due regard to 1) how it fits into the overall task of achieving industrial growth in many different areas, and 2) how a policy to increase local content may be outlined to be viable with the ultimate goal of promoting national wealth.

A COMPREHENSIVE PERSPECTIVE ON LOCAL CONTENT AND NATIONAL WEALTH

In essence, any discussion regarding industrial growth, including efforts to generate growth by increasing local content in goods and services that are needed to extract oil and gas, concerns the issue of attracting investments. Investments are needed to expand capacity and capabilities that are essential in the generation of industrial growth. So it is in the petroleum sector, as in the non-petroleum sector of the economy. And, so it is for indigenous companies to expand, as for foreign companies to establish facilities for manufacturing and service production locally.

Money is not sufficient to undertake investments that will contribute to capacity building and growth. The critical issue is to attract investors who possess industrial competence in addition to money. Industrial competence is essential to develop projects and business which in turn will expand industrial capacity.

In a market based economy investments are made when investors find it profitable to invest. It is not obvious how a project may generate profit and attract investors. Investors may consider the same project differently. There are, however, some key areas that constitute framework conditions, which are decisive for the level of investments in a country, i.e. for the magnitude of investments made by domestic as well as foreign investors. This holds true for investments in general, both in the petroleum sector and the private non-petroleum sector.

An enabling environment for investments requires that four key areas function well:

- **The macroeconomic environment** is decisive for development of domestic prices, the exchange rates for the local currency, and the interest rate. These are all factors that are crucial for any investment decision. The key concern of investors is not necessarily macroeconomic stability, but that the macroeconomic development is predictable.
- **Institutions and legislation concerning business** constitute local factor markets, i.e. the allocation of labour and capital. Furthermore, they concern the regulation of business and taxation. These areas provide incentives for how investors, the business community and local authorities will act. The key concern of investors is credibility and reliability.
- **Infrastructure for business development.** Public utilities as roads, railways and air transport, telecommunications, electricity and water supply will in general constitute an environment, which is more or less enabling for business development and

productivity. The standard of this infrastructure will affect profitability considerations for investors when considering investments. So will the educational system, which influence the quality of labour, as well as the health system.

- **Social infrastructure** captures how inclusive the society is towards different social groups. Social cohesion reduces the chances of social disorder and violent conflicts. In case of the latter, neither investments nor technology transfers from attracting foreigners will be induced.

These key areas are illustrated in Figure 1 as framework conditions influencing investments in value generating activities of a country. This figure also illustrates that national wealth depends on value generating activities in all sectors of the economy, and that local content ambitions in the petroleum sector alone are unlikely to meet the challenge of economic welfare and growth.

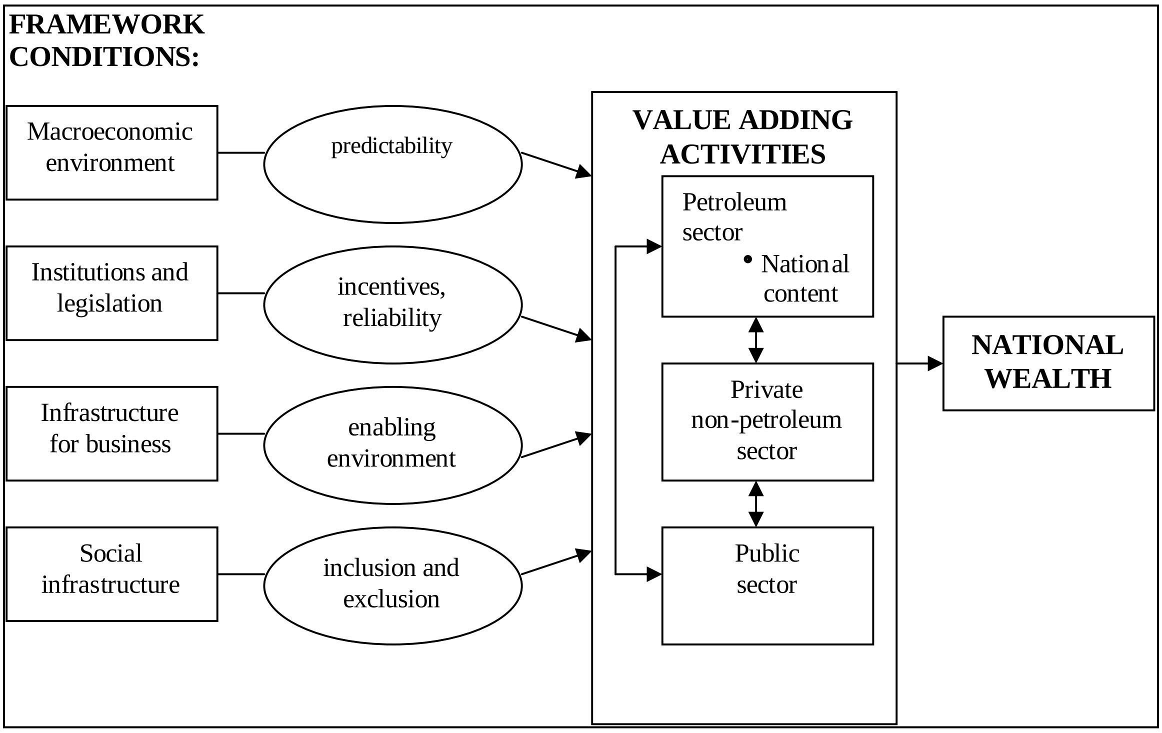

Figure 1: A comprehensive perspective on industrial growth and national wealth

It has already been pointed out that local content requirements do not necessarily have to add value to the contributions from the petroleum sector. In extreme cases, wealth creation may be lower from the society's point of view, in particular if local content is implemented so that business in the non-petroleum sector of the economy is crowded out. This may also be the case if the petroleum activities generate revenues for the public sector, which are spent so that the competitiveness for producers of tradables in the non-petroleum sector deteriorates. Thus, a local content policy and public spending have to be outlined and enforced with caution to avoid the danger of damaging opportunities for business development outside the petroleum sector as well.

YARDSTICKS WHEN DECIDING AN APPROACH TO ENHANCE LOCAL CONTENT

There is no clear cut, or simple answer, as to how a policy to enhance local industrial development in connection with oil and gas activities ought to be outlined. It does, however, have to translate into the employment of domestic labour and firms. Contracting of local firms is not sufficient. These firms need to operate in a way that directly contributes to the generation of value added in the domestic economy.

Anyway, if the ideas behind local content are to be real, the potential for large oil and gas reserves ought to be substantial. It does not make sense to design a policy to enhance local content unless the oil and gas activities are of a magnitude that allows the oil industry to operate in the host country for a rather long time period. It furthermore is a necessity to have a realistic description of current industrial capacity and its potential in order to come up with a policy that is effective in expanding industrial capacity.

A prerequisite to succeed with a policy to enhance industrial development by increasing local content in the local petroleum activities is to ensure that decision makers at all levels in the society share the goal of pursuing a policy which will contribute to national wealth through industrial growth. This means that policy-makers as well as the executive power should be aware of trade-offs and pitfalls that a policy to increase local content may entail. Transparency is an important mechanism in this respect.

Assuming that a conceptual framework for the genuine task of enhancing industrial development to benefit national wealth is widely accepted, a base is constituted from which a constructive dialogue can take place between all parties involved. Then expectations can be clearly expressed to the other parties as well. Oil companies, directly and through their major contractors, should be expected to contribute to the development of domestic industry that is able to meet the requirement of international competitiveness. On the other hand, local firms should be expected to improve their performance and gradually reach international standards.

The collaboration between the government of the host country and the major players in the petroleum activities should have its focus on how to involve domestically based companies which employ local labour. Attention should be on how to facilitate their participation in the domestic petroleum activities without compromising quality, health, safety and environmental standards.

The role of government

It is essential that a government agency is authorized and allocated sufficient resources, to monitor and assist efforts to increase the participation of local industry in the petroleum activities on a competitive, non-corrupt basis.

Besides monitoring the development of local content and the contracting processes, the responsible government agency ought to play a role to assure that local companies can participate in the competition on a fair basis.

The system implemented in Norway throughout the 1970s and 1980s, resembles what have been done in many different countries around the world, albeit outcomes differ significantly. The essential elements are:

- The government agency which is responsible for local content enhancement should be established as an authoritative system, with executive power to monitor industrial development based on the petroleum activities. This concerns the production of reliable data to register how local content develop, to initiate constructive discussions regarding field development plans from the oil companies, the contracting plan of the oil companies, schemes to have industrially qualified local companies on the bidders list, and to ensure that contracts are granted according to rules of fair competition.
- The government agency should strive for achieving a reputation as being predictive regarding government intervention, which e.g. can be limited to enforcing standards regarding HSE (health, security and environment) and fair opportunities for local companies to compete for jobs.
- The government agency shall ensure that conditions, or expectations, regarding local content development are written into the licences, when they are entered into or renewed.
- The government agency shall consider the performance of the oil companies with regard to local industrial development as one factor that will be rewarded when awarding new licences to the oil companies, or when extending old ones.

As for the specific field development plans and the oil companies' plans for awarding contracts, it must be required:

- Oil companies shall discuss field development plans, or an extended version of such plans including purchasing strategies regarding development and operations with the government agency, to reach a consensus on the best approach when considering cost efficiency and involvement of companies with local value addition activities to enhance industrial development and growth.
- Oil companies shall inform the government agency about the companies they have put on the bidders list for contracts above a certain size, and the government agency

should be granted the authority to demand that industrially qualified local companies are included on the bidders list of the oil companies.

- Oil companies shall present their choice of a supply or service provider to the agency before the contract is executed. The role of the agency should be to ensure that the offers from domestic companies have been granted serious consideration, meaning that competition has been fair.

It must be underlined that such a system may easily backfire if the processes of enhancing local content are not executed in a way that is compatible with the need of economic efficiency and industry standards. To ease the process and the chances of a constructive dialogue between oil companies and the government, it is an advantage if there is established a market driven register of pre-qualified local companies. Besides forming a database of eligible contractors for the oil companies to choose from, such a register would also facilitate the efforts of foreign companies to find a local partner.

Thus, the prime task for the government agency is to facilitate participation for domestic value addition activities on a competitive basis, which means

- to have demanding, but realistic ambitions with regard to the magnitude of local content
- to focus on processes to involve domestic companies on a competitive basis, and on capacity expanding measures within the industry, rather than reserve specific jobs according to the nationality of the company,
- to encourage restructuring of the local industry to better comply with the demands of the oil industry
- to stimulate the establishment of a supply and services forum, where the oil companies can meet local industry for information and discussions
- to encourage constructive government discussions and liaison work with oil companies and the oil industry
- to monitor the man power requirements of the industry and ensure that various training programmes are in place to deliver the requirements
- to make known the various opportunities that are available for investors
- to encourage R&D and technology development programs, for instance around universities where funding may be leveraged from the oil industry

The underlying idea in such a strategy is to encourage the oil companies to compete in involving domestic value adding industry and to let their track record in this respect influence their rights to future oil and gas.

The responsibility of the oil companies

The responsibility of the oil companies should be directed to implement business strategies that will contribute to local industrial development. It concerns the operations of the oil companies themselves, but also their role as major actors in the supply chain, and in particular their responsibility to involve their global service providers in a way that comply with the local content ambitions. The point is not to instruct oil companies as to what has to be done, but to challenge them to come up with schemes, which they expect to work, which they can commit themselves to, and for which they can be held responsible. Examples as to the types of measures that the operating oil companies must consider, concern:

- Technology transfer and development
    - to evolve and operate supplier development programs
    - to encourage technology transfer programs, spanning from training local staff to R&D cooperation with domestic companies and universities
    - to train and assist local companies to meet demands for certification
    - to train local staff in areas that may be crucial for participation, as operating facilities for e-procurement
    - to encourage joint bidding by local and foreign companies
- Financial agreements to compensate an inferior financial system for local companies
    - to design arrangements which allow dollar loans at relatively low interest rates with the contract as a guarantee
    - to construct milestones in the contract which allow for more frequent payments to improve liquidity of the local companies
- Strategies to match local demand with local supply
    - to consider technological solutions which may increase the probability of local supplies
    - to design contracts and specifications to fit the structure of local business
    - to demand local content programs from major contractors

The oil companies should also be expected to contribute to a forum where the local supply and service providers can meet. Such a forum will allow the oil companies to inform the local industry about future plans and projects, and to discuss issues of general interest. It may even form a base to facilitate restructuring of the domestic industrial base connected to petroleum activities, if needed. Industrial development means change, i.e. to do things in a different way, and may be even by other actors than those which already are established, meaning that existing companies should be allowed to exit. It is crucial to allow for such processes. Otherwise, the policy will only work to conserve existing business and power structures.

Even though the government is advised against instructing the oil companies as to what they should do, the government ought to encourage the oil companies to devote particular attention to industrial development in technology areas, which are expected to have significant effects on employment. This will also be areas where the contributions to local value addition will be most substantial in the short and medium term. It will also mean training of manpower, which the development of other industries may benefit from through the mobility of labour.

CONCLUDING REMARKS

In this paper we have discussed potential benefits and disadvantages linked to ambitions to increase national participation in an emerging and rapidly expanding domestic petroleum industry. It is a huge potential for industrial capacity building and growth in educating and teaming local labour and firms with internationally leading firms. However, to reap the benefits of local content, it is crucial for any country to create a political context that is supportive to the task of building industrial capacity. This requires a broadly shared understanding of some basic lessons from other countries across different political sectors and levels of governance, across social groups, and across geographic regions. We have tried to summarize these lessons in ten messages:

1. Local content will contribute positively to the host country economy to the extent it proves to be a means to create and develop value addition activities domestically which become competitive by international standards. Thus, local content represents an industrial opportunity for the host country government to strengthen the industrial base to ensure economic progress and domestic wealth.
2. The only way to succeed with a policy to enhance local content is for all stakeholders to stay focused on and dedicated to capacity building in local firms and in people (local labour). No one can decide that capacity shall be built. Capacity is something that is created through training, exercises and knowledge transfer, and capacity building requires a dedicated and committed engagement from politicians and civil servants at the national and local level, from oil companies and their global supply and service providers, and from industrial associations, schools and institutions for vocational training, universities and NGOs.
3. Within this perspective where local content means capacity building to meet international standards, local content is also an industrial task that offers opportunities for the oil industry to strengthen profitability from its operations in host countries with huge oil and gas resources. In such cases, investors in the oil industry should be expected to consider local content development as a strategic means to improve efficiency in the oil and gas activities that are conducted over the life time of the host country's petroleum resources. This implies that local content is commercially justified and not a matter of corporate social responsibility (CSR).

4. The mechanism to achieve local capacity building is to take advantage of the interest of foreign firms to participate in the oil and gas activities of the host country. The key determinant is to have foreign firms and investors to agree to the task of local capacity building, to have them come up with measures to build local capacity, and to ensure that they will collaborate with local business, education and training institutions to achieve the task.
5. Oil companies are not likely to engage in local capacity building unless it is required by the host country government. Thus, the government needs a legal basis for such initiatives and a strong government body to engage in efforts to achieve such collaboration. This government body should have adequate capacity and be equipped with executive power to engage in discussions regarding field development plans from the oil companies, the contracting plan of the oil companies, and to ensure fair opportunities for local firms to compete for jobs.
6. The ultimate purpose of the interaction between the government body for local content and the oil companies is to have the oil companies come up with plans and schemes for industrial capacity building locally, which they expect to work, which they can commit themselves to and for which they can be held responsible. The oil companies are in this respect also expected to be a gateway to global supply and service providers which they engage in their local operations.
7. Conditions and objectives with regard to local content and local capacity building should be formulated in a clear, realistic and transparent way and be written into the licenses which the oil companies are awarded. The government body should then have the authority to consider the performance of the oil companies with regard to local capacity building, and to let good performance in this respect be one factor to be rewarded when new licenses are awarded, or when it is a matter of extending old ones.
8. Progress with regard to local content should be measured and evaluated by considering the magnitude of value added in companies with an infrastructure in the host country that serves the operations of the domestic oil and gas industry. It is the use of local resources that is of importance. The ownership of firms does not really matter.
9. A successful policy with regard to local content is not sufficient to generate sustainable wealth and prosperity in any country. Thus, due regard must be paid to how a policy to enhance local content may impact non-petroleum sectors of the economy. Furthermore, capacity building to increase local content should be considered a means to enhance private sector development in general, which implicate that capacity building in areas with potential large positive spillovers to non-petroleum sectors, and infrastructure investments that enable business development in general, should be given priority.
10. Oil and gas activities will not really generate any immediate benefits of great significance at the national level. As long as they expand, a large share of the

revenues will be reinvested in getting new oil and gas fields on stream. Thus, it is bound to take time until oil revenues really show up in government budgets. Similarly, industrial capacity building is not done overnight. It takes years to build industrial capacity that may be competitive by international standards. In addition, opportunities for newcomers are more promising when petroleum fields are in operation than during the earlier stages of petroleum activities with exploration and field development. If this is not properly and broadly understood, expectations will easily rise to levels that only can lead to disappointment and distress.

We suggest that these ten messages may serve as yardsticks when considering how to go about to formulate a viable policy to enhance local content. They should hold for any country. The exact formulation of policies, however, as specific measures and ambitions, will have to vary significantly between countries, depending on the current status of their economic, political and social development. This does not mean that there is only one answer as to how any country ought to go about. Industrial development is a challenging task, and agencies, facilitators and politicians should be encouraged to learn as they experience how things work, and to strive for continuous and incremental improvements. The only thing that is crucial is to stay dedicated to the task of capacity building. Maximizing the benefits of local content is not the same as to maximize local content.

REFERENCES

Belderbos, R., G. Capannelli and K. Fukao (2001), "Backward vertical linkages of foreign manufacturing affiliates: Evidence from Japanese multinationals", *World Development*, Vol. 29, no 1, pp. 189-208.

Gylfason, T. (2001), "Natural resources, education and economic growth", *European Economic Review,* Vol. 45, pp. 847-859.

Heum, P., C. Quale, J.E. Karlsen, M. Kragha and G. Osahon (2003), *Enhancement of local content in the upstream oil and gas industry in Nigeria – a comprehensive and viable policy approach*, Bergen: The Institute for Research in Economics and Business Administration, SNF-Report 25/03.

Iimi, A. (2007), "Escaping from the Resource Curse: Evidence from Botswana and the Rest of the World", *IMF Staff Papers*, (December) Volume 54, Number 4.

Leite, C. and J. Weidmann (1999), "Does Mother Nature Corrupt? National Resources, Corruption, and Economic Growth", *IMF Working Paper* No. 85, International Monetary Fund, Washington D.C.

Nordås, H. Kyvik, E. Vatne and P. Heum (2003), *The upstream petroleum industry and local industrial development. A comparative study,* Bergen: The Institute for Research in Economics and Business Administration, SNF-Report 08/03.

Papyrakis, E. and R. Gerlagh (2004), "The Resource Curse Hypothesis and Its Transmission Channels", *Journal of Comparative Economics,* Vol. 32 (March) pp. 181-193.

Sachs, J.D. and A.M. Warner (1995), "Natural Resource Abundance and Economic Growth", *NBER Working Paper* No. 5398, National Bureau of Economic Research, Mass.: Cambridge.

Sachs, J.D. and A.M. Warner (2001), "The curse of natural resources", *European Economic Review*, Vol 45 (4-6) pp. 827-838.