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RURITANIA: Is DXEnergia a Magic Wand?

Developing countries endowed with raw materials and natural resources such as oil and gas have traditionally had little trouble attracting private investment. Projects in the extractive industries generate sizeable revenues, create jobs that employ both skilled and unskilled labor, and lead to a whole array of new business opportunities in secondary industries. In Ruritania, there are growing hopes that the DXEnergia Consortium is will prove another prime example.

The energy sector currently contributes 40% of Ruritania's GDP, and the export of natural gas accounts for 72% of all foreign sales. The overwhelming dependence on one industry notwithstanding, it has nonetheless allowed the once impoverished nation a substantial improvement in living standards, to the point that it now has the second highest GNP per capita on the continent. DXEnergia--a consortium of Exxon, the Ruritanian State Oil Company RUSTOC, and the international mining conglomerate DiaCo--is contributing to a vastly improved infrastructure and institutional capacity, especially in the more isolated mountainous regions of the north.

Compared to oil exploration and extraction, that of gas is a relatively recent phenomenon. Improved pricing conditions have been a major factor in fostering greater gas development and activity. Moreover, gas reserves are increasingly being seen as a valuable target in their own right, rather than as a mere by-product of oil exploration. Their exports generate sizeable foreign exchange and make a positive contribution to balance of payment accounts.

Natural gas has several characteristics that make it preferable to oil as an energy source. First, it is more readily available than oil. It is also a cleaner burning fuel. Finally, it is usually found and produced from reservoirs devoid of oil - what geologist call non-associated gas. This makes extracting or recovering gas easier than oil. With full recovery generally assured, the only difficulty becomes ascertaining the existence of the reserves themselves.

This, however, is no small feat, given that the costs of confirming the existence of natural gas at any particular location and depth run high. Moreover, projecting future gas supplies is more art than science and usually involves collective guesstimates among geologists, technologists, economists and other experts. More often than not, gas-supply projections are proved wrong. These facts alone make it difficult to justify development costs.

What geologists do agree upon is that the best place to explore for hydrocarbons are regions that at one time or another supported low-lying environments or shallow seas that trapped sediments from higher ground. These areas are called sedimentary basins. Oil and gas can only be found in rocks whose solid constituents are not tightly packed together. Sedimentary basins fall into this category. Representing accumulations of eroded rock particles brought together by wind, water and gravity, they are most likely to contain the type of pores in which hydrocarbons reside. The richest hydrocarbon-bearing strata are usually sandstones, because particles of sand have a tendency to settle together and leave room for fluids to accumulate. Aside from their porous nature, sandstone formations are also characterized by high permeability, enabling gaseous fluids to flow easily in response to changes in pressure. By contrast, poor permeability and tight sands slow down flow from a well. The mountainous terrain of northern and central Ruritania contains several sedimentary basins, the ideal for gas extraction.

It is also important to highlight the capital costs involved in the exploration, production and distribution of natural gas and how these have evolved over time. Historically, financing was based on long-term reserve commitments and sales obligations. More recently, commodity price volatility has sparked a movement toward short-term contracts. Wellhead deregulation and open-access transportation have also contributed to price fluctuations and spot trading. This has led to the creation of new financing techniques to reduce risk. Based on DXEnergia's review of industry data, $19.44 of capital is required to produce and deliver 1000 cubic feet (Mcf) of gas annually to an end user. This is composed of:

* $11.29 of capital to explore for, find, and develop natural gas reserves
* $1.22 of capital in natural gas pipelines to transport gas from the wellhead to the city gate
* $6.93 of capital to distribute gas from the city gate to end users.

Ruritania's dependency on gas as a source of foreign currency highlights another problem for many developing countries. There is a major downside to reliance on extractive, non-renewable resources for economic growth. The environmental and social costs that arise can sometimes outweigh the benefits. And as so often happens, it is local, rural communities that bear the brunt of dislocation and ecosystem damage, while the benefits are reaped elsewhere.

What can be done to mitigate these costs and to promote sustainable development instead? How do developing countries maximize the benefits they derive from their natural resources and minimize the many social problems that inevitably arise? The answer lies with greater cooperation and shared accountability between project developers, governments and local communities, including local NGOs. Kathryn McPhail, a Principal Specialist in the International Finance Corporation's Technical and Environment Department, recently published a set of guidelines that Ruritania's economic policy planners would be wise to adopt. Among her recommendations for a more equitable sharing of costs and revenues are the following:

* strengthen national policy frameworks and government's capacity to deliver essential services
* identify cultural sensitivities to facilitate project planning and selection of the best alternatives for mitigating negative impacts
* negotiate equitable concession agreements with private sector companies
* strengthen policies and procedures for public consultation and promote transparency in project planning and implementation
* build capacity at the local level to absorb incremental revenues for development purposes.

Above all, McPhail stresses the need for better stewardship of revenues and greater community participation. Only then can development programs meet local needs and instill a greater sense of ownership.

Mega-projects can be the cause of other, more unexpected problems. In conflict-ridden regions, armed insurgents have been known to wreak havoc on the security operations of multinational corporations, especially when national governments are called upon to provide that security. To cite one example, guerilla groups in Columbia, opposed to the presence of BPXC's operations there, have kidnapped BPXC personnel and have been in violent conflict with government soldiers employed to guard the company. Given that Ruritania's neighbor to the west is currently in the throes of civil war, such developments must be taken seriously.

Ruritania's political leaders have long supported the rapid development and exploitation of natural resources as the path to entry into the ranks of newly industrialized economies. This fact also helps explain the country's relative political stability in a region marked by violence. But sustainable development requires shared commitments, shared responsibilities, planning and vigilance. Although the country's future is inextricably linked with the fortunes of the oil and gas industry, much more can and must be done to manage both its beneficial and harmful consequences.

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REGIONAL CONFLICT A SETBACK TO RURITANIAN GAS RESERVE PROJECT

The probable existence of substantial gas reserves in northern and central Ruritania has been common knowledge for some time, yet not even the DXEnergia consortium has found a way to exploit this opportunity and to bring the gas to market. Two problems have stood in the way.

First, the project has been plagued from the outset by a slew of logistical and infrastructure problems. Mud slides last May temporarily wiped out access roads to the region. This occurred just after agreement had been reached to end a six-month-long work stoppage by local employees who had been demanding higher wages and improved on-site living conditions.

But more than anything, it has been the civil war in neighboring Brynania that has put a dent in DiaCo's grand plans. The optimal export route for Ruritanian gas just happens to run through war-torn Brynania. This is the well-known RCB (Ruritania-Ciku-Biku) pipeline, which connects the two countries. Before the war, plans had been in the works to extend the RCB line all the way to McGilldishu on the coast, thereby providing DXEnergia with a much-needed port gateway. The outbreak of war shelved these plans, as well as the building of an LPG (liquefied petroleum gas) export facility at McGilldishu. Not only does the pipeline remain unfinished, but the current line to Biku has itself been rendered inoperable by the fighting. It is not just Ruritania's economy that is affected. Biku is also hard hit. Without a functioning pipeline to provide a steady flow of natural gas, Biku's power generating facility, which runs on gas, is crippled. The sole electrical supply for all of Brynania has been reduced to the mercy of a few local generators.

It is important to understand just how pipelines are the lifeline of natural gas. The industry consists of a number of capital intensive and technically-demanding activities, including recovery, production, storing, pipeline transportation, distribution and end-user consumption. Pipelines perform what is referred to as a "merchant" function, contracting for gas in the field and selling it at the city gate. This "merchant" function plays an important role in the effective utilization of pipeline assets. Like any commodity, excess capacity must be marketed and sold, but without long-term upstream and downstream contracts, the risks associated with pipeline investments increase. Local distribution companies must have a guaranteed supply to meet their obligations. The economic and political costs associated with failure to perform are tremendous. Often, the gas producer and pipeline are under different ownership, yet it is the pipeline that takes on the risk-bearing role, guaranteeing the customer specified service levels, while contracting with the producers to ensure it has sufficient supply.

Moreover, the industry involves locked-in commitments of specialized plant and equipment. There are also significant system interdependencies. Pressure control, load balancing, gas rerouting during line work, storage and gas mix all require high levels of cooperation from the end of one system to the other. Close coordination ensures that problems can be repaired in a timely fashion and with minimal disruption. Let's take the current situation in Brynania as an example. Under normal circumstances, re-opening the pipeline, at least until Biku, would pose only minor technical problems. But regional conflict has meant that political pressures have come to bear and now the entire project is on stand-by. Ruritania's Minister of Energy Xer Nenyrb had engaged in several marathon negotiations with his Brynanian counterpart, and an announcement had been expected last week regarding the pipeline's future. Over the weekend, however, new explosions along the dormant pipeline highlighted the magnitude of continuing security problems.

Ruritania's natural gas industry is based on two major gas fields located in the northern and central parts of the country. These were discovered in the early 1970's and were brought into production in 1977 by Exxon with the establishment of a liquefaction industry.
Reserves in these fields are estimated to total at least 11.9 trillion scf (standard cubic feet). Today, the DXEnergia consortium has the sole rights to exploration and development of the fields.

Ruritania has made substantial infrastructure investments in order to produce, transport and utilize natural gas. Net annual gas production has grown from 1.2 bcm in 1977 to the current 56 bcm. Around 70% of the gas is liquefied as LNG (liquefied natural gas) for export; the remainder is used for LPG (liquefied petroleum gas) production or direct consumption in the domestic market. Natural gas is also used as feedstock for fertilizer plants and in the production of methanol.

Where does all this leave DXEnergia? Clearly, Ruritania's gas reserves remain untapped. A fully functioning pipeline could breathe new life into the country by generating new demand and thereby accelerating the development of the gas fields. In light of the potential wealth of the resources and the growing emphasis of natural gas as a prime energy source, Ruritania is counting on regional political stability in order to achieve the progress in gas development that it desperately needs.

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RESTORING HOPE TO BRYNANIA: HELP WANTED

In the wake of the recent ceasefire in Brynania, talk has now turned from revolution to reconstruction. Yet for many, the suffering and hardship may only be beginning. A ravaged countryside, a crumbling urban landscape, weak or non-existent state institutions, an extremist government beset by mismanagement and corruption, a military better known for inciting insurgency than for maintaining law and order, and simmering social tensions reveal the thread-bare nature of the country's social fabric. Rebuilding Brynania will take a concerted effort among government, civil society and the international community. The reconstruction process will not only affect economic prospects, but will go to the heart of ensuring a permanent peace in the region. Below is a quick tour of the challenges that lie ahead for Brynania.

First and foremost is the pressing need to rebuild the country's shattered infrastructure, starting with a functioning transportation,
communication and electrical power network. This alone is a daunting prospect and expected to last several years. A second priority will be getting the economy back on its feet. Brynania is Cyberia's poorest country, as measured by GNP per capita, and made poorer by the war. In total GNP, only Uqamistan rates lower. Economic performance will have to undergo substantial improvement if Brynanians are to enjoy the living standards of some of their neighbors. Yet how can the country spur economic growth after years of devastation and ethnic hostilities?

The military junta clearly lacks the means to undertake anything but a minimal public spending role. And while international donors and other interested parties have stated their intention to provide substantial financial assistance to Brynania's reconstruction
program, this will do little to stimulate actual economic revival. One obvious solution is to attract foreign investment into the
country. But given the absence of a stable political-economic-legal environment, this is easier said than done and only underscores the urgent need to reform the legal system, liberalize trade, stabilize exchange rates, and keep inflationary pressures in check. Compared to Asia and Latin America, Cyberia has seen relatively low levels of private investment, be it foreign or domestic. This is a worrisome trend, given that it tends to be private investment, much more so than public funding, that spurs economic growth and development.

Authoritarian governments, a string of military coups and a record of corruption have scared away most investors in the past. There have been few signals of changes in government practices that might act as an encouragement to potential investors to part with their funds. To date, the political risks of doing business in Brynania have simply remained too high. Civil unrest has undermined macroeconomic stability and has resulted in black markets, convertibility problems and exchange rate volatility. All of these tend to lessen the value of revenues.

Even daring venture capitalists have shied away from the region. Although venture capital is making its way around the globe, the
long-term commitment that would be required in Cyberia is, for the most part, antithetical to the short-term profit model upon which
venture capital programs are built.

In addition to attracting capital and investment, it is crucial to raise productivity. Local agriculture is one of the few sectors of
the economy that may bode well for the future. The fertile lowlands of the southwest, although neglected and badly scarred due to years of war, remain the country's best hope for renewed agriculture production, even if on a small scale. This is a key area in which
international investment and NGO focus can have an impact, especially in reviving cattle farming and dormant cotton fields. An infusion of modern farming equipment and production methods can help produce higher yields, permitting Brynania to resume its exports of beef, cotton and cocoa.

Brynania's diamond trade has been another important source of revenues in the past. Little has been heard from DiaCo, the
international mining conglomerate, as to its long-term intentions. Prior to the civil war, earnings from

diamond mining were
substantial, both in profits for DiaCo and tax revenues to the Brynanian government. As of this writing, the mountainous road to
Eiku, in the north of the country and around which most of the mines are situated, remains strewn with land mines. As a result, DiaCo exports are believed to flow, untaxed, from areas controlled by the self-styled "Free People's Army" across the northern border into Icasia.

Diamond mining, while lucrative for all parties, has not been without controversy in the region. In the early 1980's Ruritania attemped to nationalize some mines and operate them independently on the world market. Pressure from the US government and the likely threat of capital flight ultimately forced Ruritania to reverse this policy. Throughout this period, relations between Ruritania and the US managed to remain friendly. Brynania's relationship with the US stands on more tenuous footing. It has only been of late that
relations have warmed. We still do not know much about the intentions of the government of the current regime but any renewed
talk of nationalization could jeopardize the urgent need for cash inflows to Brynania.

But no matter how much external help is offered Brynania, its fortunes remain tied to that of the entire continent. As the world
converges into regional trading blocs so too must Cyberia. Membership in a trading bloc makes a country more attractive to
foreign investors, since manufacturing plants can be located there, enabling them to receive preferential treatment for exports to other member countries. This has been a key factor behind Malaysia and Thailand's economic growth, fueled by their membership in the ASEAN grouping.

A second factor increasing the importance of trade blocs for emerging markets is the enlarged market potential, essentially boosting its market size. Market entries and foreign investment that cannot be justified with a smaller population can now be captured more easily. However, the relationship between trade bloc membership and growth is a reciprocal one. New growth usually occurs when the trading blocs are created, but growth is a necessary precondition for the country to show sufficient promise in the first place. If the country's economy is weak, its domestic enterprises will fight new entrants and prospective bloc members will hesitate to partner up with an inferior candidate. Weak market demand has prohibited many Cyberian countries from pursuing effective trade coordination. It may be time for politicians and policy-makers to form a trading bloc for Cyberia, along the lines of the short-lived Cyberian Franc Bloc, which had been established in 1964 to promote economic cooperation between countries in the region. At present, intra-regional trade is limited. Differing infrastructures, distribution systems and regulatory environments also inhibit greater economic cooperation.

The problems do not end there. Foreign exchange reserves at the beleaguered Bank of Brynania have reached an all-time low and it has reported net losses for most of the last ten years. The IMF had put a strategic revival plan in place, but the Bank kept straying from the plan. The Central Bank has petitioned the government for recapitalization funds to keep it afloat, but where the state is to
come up with the funds is anyone's guess. To make matters worse, several branches of the bank have been forced to close down due to lack of assets.

Many believe that the prospect of peace will lead to automatic economic improvement. Such expectations can prove detrimental, given that the peace agreement is unlikely to address the structural consequences of the conflict. Significant economic inequalities will remain, as will ethnic resentments. It is dangerous to pin one's hopes on a quick peace dividend. Still, in order to maintain
legitimacy for peace, the people must be given tangible evidence of progress. Deprivations cannot go on for too long. That is why it is so important to maintain spending in essential services such as health,

education and housing. As we are witnessing in Latin America, when living standards stagnate and people's expectations are deflated, a growing popular fury to the lack of progress can arise, setting back both reconstruction and peace itself.

Although the picture is not completely bleak, Brynania does face an uphill battle in attempting to repair its shattered society and restore hope to an embittered citizenry. Several weeks ago, the Brynanian government hinted at the possibility of releasing Zahra al-Zahra, the jailed human rights leader. Many analysts have regarded that as a turn toward greater accommodation and reconciliation. That alone would send a signal of hope more than any economic aid ever could.