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Challenges and Prospects of Infrastructural
Development in an Oil and Gas Economy

Dr. J.L.S. Abbey
Executive Director, CEPA

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CHALLENGES AND PROSPECTS OF INFRASTRUCTURAL DEVELOPMENT IN AN OIL AND GAS ECONOMY

Introduction and Background

Challenges and Opportunities of Natural Resource Windfalls

- Newly found oil resources along the coast of Ghana provide new opportunities to further accelerating growth and achieving economic transformation. However, experiences in other African countries such as Nigeria and Zambia show that properly managing resource windfalls remains a challenge for many developing countries. Wrong strategies for allocating and using natural resource revenues can harm the process of economic development instead of accelerating growth.

Revenue Transparency and Natural Resource Curse

- Extensive empirical evidence of poor growth performance by natural resource-rich economies in Africa, the Middle East, Latin America, and East Asia and the Pacific suggests that these resources, including oil and gas, are a factor that could have potentially negative implications for growth.

Resource Curse Syndrome

- This phenomenon is referred to as the “resource curse” because these countries appear to have failed to realize their apparent economic potentials. The chief explanation given for this is that natural resources, such as oil and gas deposits, can lead to weak governance and high levels of corruption which can reduce economic growth rates.

One way to mitigate this outcome is to strengthen or put in place public finance institutions that manage the oil revenues. In Ghana, the law stipulates the setting up of Petroleum Funds — Stabilization Fund and Heritage Fund — and later the Oil Wealth Fund. An Advisory Committee has also been recently inaugurated to perform specified functions including the investment of resources. The Bank of Ghana is custodian and manager of these Petroleum Funds.

The essence of these institutional arrangements is to make the relationship between the government and the oil producing Jubilee partners transparent in the hope that transparency will lead to better outcomes.

Dutch Disease

- In addition to the resource curse syndrome is what is known as the “Dutch Disease” — a destructive force on the non-oil sector unleashed by the oil sector. The disease works broadly as follows:
 - The booming oil sector attracts productive resources from the non-oil sector because of the higher incomes that are realizable in the former sector. If remedial measures such as improved and supportive infrastructure in the non-oil sector are not taken, the loss of productive factors results in reduced or even declines in production activities.
 - At the same time the foreign exchange earnings and inflows from the export of oil and gas could, if things are left as they are, have adverse effects on the non-oil sector because they could lead to a strengthening — an appreciation — of the cedi in the foreign exchange market. The resulting stronger cedi hurts non-oil sector industries.

Costed in foreign exchange, production costs of Ghanaian exporters would rise on account of the stronger cedi. Unable to pass on their higher costs in foreign markets on account of their small size in these markets, Ghanaian exporters would suffer a squeeze on their profits. In extreme cases, producing for export becomes unprofitable and hence non-oil sector exports can be expected to generally fall with accompanying loss of jobs.

The stronger cedi also makes imported items cheaper in the domestic market in comparison with domestically produced competing products. Again, domestic producers would experience a profit squeeze which could drive some out of business, again with job losses. Meanwhile, the increased availability of foreign exchange from oil and gas exports moreover provides the resources to pay for more imports. The reduced production in the non-oil sector therefore can go on without being noticed because imports make up for the production shortfall and the destruction of the non-oil sector is not seen perhaps until the oil wells run dry by which time it is too late.

Oil as a Blessing

- Studies have shown that if oil revenues are invested prudently — whether in improved infrastructure such as roads, railway and ports, or in better education, health and sanitation — this could be expected to boost incomes and living standards, making oil a blessing.

The international experience also strongly suggests that fiscal discipline must be maintained; and in poor countries with weak institutions strengthening of these, especially for good economic management and governance, is a critical requirement to make the oil resource a blessing. An example of one such institution is the institution of conflict management.

Institutions of Conflict Management

- Societies differ in their cleavages. Some are nations in the sense of having virtually no cleavages — are homogenous. Most, however, are characterized by deep cleavages such as ethnicity, religious beliefs or even cultural differences and geographical locations. Relatedly, economic developments and shocks impact on different people differently within the same society. If not bridged adequately, cleavages can hamper social co-operation and prevent the undertaking of mutually beneficial activities, endeavours, and projects. And social conflict is harmful not only because it diverts resources from economically productive activities. It is also harmful because it discourages such activities by the uncertainty it generates.

Healthy societies have a range of institutions that would make such colossal co-ordination failures less likely. Such institutions include:

- The Rule of Law,
- A High Quality Judiciary,
- Representative Political institutions,
- Free Elections,
- Independent Trade Unions, and
- Social Insurance such as SSNIT or NHIS

These institutions function as instruments for conflict management because they entail two important components: On the one hand, they warn the potential “winners” of social conflict that their gains will be limited. On the other hand, they also assure the “losers” of such conflict that they will not be expropriated.

They tend to increase the incentives for social groups to cooperate by reducing the payoff to socially uncooperative strategies.

In contrast, a recent study by the IMF staff found confirming evidences that weak institutions or their absence in poor countries are a potential source of the oil resource becoming a curse rather than a blessing. This was described in the IMF study as a ‘poverty trap’.

The Elusive Quest for Growth

- The international experience has been that for many less developed countries including the resource-rich, economic growth has been elusive. The reality is that growth must be participatory and incentives-based. Unleashing the energies of the people by equipping them through education and health, access to water and sanitation, roads and other public goods are incentives that guarantee growth-enhancing participation.

The provision of improved infrastructure services and institutions for good economic management and governance has typically increased the opportunities and choices available to people as to where to live and work, what to consume, what sort of economic activities to carry out and which other people to communicate with.

William Easterly, a former senior World Bank Official has documented the historically elusive quest for economic growth in the tropics in his book; *The Elusive Quest for Growth — Economists’ Adventures and Misadventures in the Tropics*. To somewhat paraphrase him:

Economists have tried to find the precious object; the key that would enable the poor tropics to become rich — we thought we had found the elixir many different times. The precious objects we offered ranged from foreign aid to investment in machines, from fostering education to controlling population growth, from giving loans conditional on reforms to giving debt relief conditional on reforms. None has delivered as promised! [emphases added]

The poor countries that we treated with these remedies failed to achieve the growth we expected. The region we treated most intensively, Sub-Saharan Africa, failed to grow at all.

Economists have all too often peddled formulas that violated the basic principles of economics. The problem was not the failure of economics, but the failure to apply the principles of economics in practical policy work.

In the quest for growth, people do what they get paid to do; what they don't get paid to do they don't do. In short, people respond to incentives, all the rest is commentary. Incentive-based policies can and do work.

Economists don't care about rising gross domestic product (GDP) for its own sake. They care because it betters the lot of the poor and reduces the proportion of people who are poor. They care because richer people can eat more and buy more medicines for their babies.

There is widespread disappointment that the quest for growth has not been successful. Protesters have called for abandoning the quest altogether. That is not acceptable. As long as there are poor nations suffering from pestilence, oppression and hunger — and as long as human intellectual efforts can devise ways to make them richer — the quest must go on.

Growth and Poverty Reduction

World Bank empirical studies on growth and poverty found that economic growth is the most powerful instrument for reducing poverty. It is true that by itself, economic growth is not a panacea. There have been numerous cases where health and other social indicators have not improved, despite decent sustained growth over periods of a decade or more. But historically, nothing has worked better than economic growth in enabling societies to improve the life choices of their members, including those at the bottom.

Ghana's experience with growth and poverty reduction over the last two decades conforms to this finding. It also points to the important fact that growth does not uniformly lift all groups out of poverty. Specifically, differentials show up across gender, space (the north/south divide) and sectorally (food farmers are the least impacted on).

- Fast growth went with fast poverty reduction, and overall economic contraction went with increased poverty;
- Increases in poverty were extremely acute in the countries with severe economic declines. Several of these poverty-increasing declines occurred in Africa — poverty shot up during severe recessions in Zambia, Mali and Cote d'Ivoire.
- The fastest average growth was associated with the fastest poverty reduction. For poverty to get worse with economic growth, the distribution of income would have to get much more unequal as incomes increased. There is no evidence for such disastrous deteriorations in income inequality as income rises.

There are two ways the poor could become better off:

- Income could be redistributed from the rich to the poor, and
- The income of both the poor and the rich could rise with overall economic growth

World Bank empirical findings suggest that on average, growth has been much more of a lifesaver to the poor than redistribution [Easterly W. (2002): The Elusive Quest for Growth page 14].

The “sins of omission” of governments — the missing incentive

- The historical experience shows that good governments that spend their money on essential public services realize very high rates of return. The rate of return to infrastructure projects has averaged between 16 to 18 percent per year.

The returns to maintenance spending on existing infrastructure — such as road maintenance — are even higher, perhaps as much as 70 percent.

Governments can kill growth by doing too much regulation and too little public service provision (Ibid p. 234). Indeed the needed incentives for growth are precisely public service provisions such as:

- Irrigation and drainage,
- Telecommunications,
- Airports
- Highways
- Seaports
- Railways
- Electric Power
- Water Supply
- Sanitation and Sewage

The Savings-Investment Gap

- There are several constraints on growth performance in Ghana. The post-Independence economic history, however, suggests that the most binding has been the savings-investment gap. High aid dependence and external public indebtedness are the evident signs of this situation.

When an economy is on an unsustainable path — (the country as a whole or) the government is accumulating obligations at a rate that could very well compromise its ability to abide by them — participants in the economy know that the current rules of the game would need to be abandoned sooner or later. They therefore may be expected to act to protect themselves from the expected changes rather than engage in productive investments.

In other words unsustainable fiscal or external accounts usually presage the need for implicit taxation or expropriation through surprise inflation, depreciation — falling value of the cedi in the foreign exchange market, default or banking crises. In anticipation, country risks and interest rates rise, further depressing investment.

Large external imbalances translate into international reserve losses and/or a rapidly rising external debt and signal the need for eventual depreciation of the currency.

Inadequate Domestic Savings

A sustainable relaxation of the binding constraint on growth in Ghana would involve an increase in the domestic savings rate. A useful starting point is an examination of the current fiscal characteristics of the economy of Ghana.

The rebasing of the national accounts revealed that Ghana’s tax effort — at just about 14 percent as of 2006 — was far short of the median of 20 percent for lower middle income countries (LMICs). There

was a sharp improvement in the tax revenue mobilization effort in 2011 — CEPA projected a four percentage points of GDP increase. Moreover, the measures in the 2012 Budget Statement — the granting of tax amnesty, the increase in the corporate tax rate in gold mining from 25 percent to 35 percent, and the improvement in tax administration and efficiency — should produce further improvements in tax revenue.

Hitherto, the government has lacked the resources to provide an adequate supply of public goods needed to make economic activity productive. This may be a reason why the country ranks poorly in measures of the quality of infrastructure — especially in roads, rail and ports — and public education.

At the Consultative Group (CG) Meeting between Ghana and its development partners in June 2007, it was noted that in spite of progress made in terms of growth and poverty reduction Ghana needed to grow much faster if it was, at the minimum, to attain the Millennium Development Goals (MDGs). It was estimated that a minimum growth rate of 9 percent (in terms of the rebased national accounts) per year in the non-oil sector is required over the medium term.

Infrastructure bottlenecks were recognized as critical constraints to growth. A relatively long period — over two decades of neglect — of steadily rising growth with very little investment in infrastructure had elevated the infrastructural bottlenecks by 2006. A combination of high demand for and low supply of electricity following inadequate rainfall and under-capacity production of the hydro-electric power plant — the Akosombo Dam — had led to power rationing and disrupted production. It was important to undertake critical investments in the energy sector.

Consequently, as Bawumia, former Deputy Governor of the Bank of Ghana and Vice Presidential candidate in the 2008 elections reported it in his book, Monetary Policy and Financial Sector Reform in Africa: Ghana's Experience (2010): investments in power, transport, water supply, and ICT were top priorities. These were joined by investments in health and education to provide the levels of human capital that will be critical for Ghana to move toward middle income status.

How do we procure the Financing?

- On the problem of financing in Ghana, Bawumia again reports on the 2007 Consultative Group (CG) Meeting on Ghana as follows [see Bawumia; page 166]:

While all the donors agreed on the critical need of the investment priorities set by the Ghana Government, when it came to the mobilization of resources to finance these investments, this consensus did not find ready translation into dollars and cents. There was an annual financing gap of between US\$2.5 billion and US\$3.5 billion that needed to be raised from private investors and public sources — domestic and international. It was not clear where this would come from. After the CG meeting the Government of Ghana was even more convinced about the case for accessing the international capital markets to begin the process of filling some of this gap which could also accelerate investment from the private sector.

He continues:

Donors and the IMF in particular were hesitant about this policy stance of accessing the international capital market. First they were worried that Ghana

would begin a new cycle of unsustainable debt accumulation. Secondly, Ghana may set an example for HIPC countries that after obtaining debt relief may pursue this path. This was, however, at the same time that Ghana was being described by the Fund as a “mature stabilizer” and so their arguments against Ghana’s strategy did not appear consistent with their own assessment of the performance of the Ghanaian economy (*ibid*, page 167).

Inadequacy of Concessional Financing

Concessional financing — finance at below market interest rates — is normally preferable if available. However, concessional financing is generally directed at social sectors — health and education — which have low economic returns but high social returns. Capital market financing is needed for investments that are critical for growth and hence have high economic returns. Moreover, there are significant delays in obtaining concessional funding — usually 2 to 4 years for infrastructure.

According to Bawumia the Government of Ghana (GOG) also saw access to international capital markets as an opportunity for Ghana to “pursue its own development priorities without the usual donor conditionality attached. Donor conditionality came in direct and indirect forms in terms of leverage exercised by donor country governments on policy choices in Ghana.”

He adds: Notwithstanding that capital markets are probably more ruthless in punishing bad policies than any donor institutions; however, there was an air of the attainment of “freedom in the move to the capital market.” Furthermore, there was the argument that when one priced in the delays involved in accessing donor funds and the conditionalities attached, the real price of those funds was actually not concessional.

Be that as it may, in accessing the international market, Ghana had to submit itself to the credit rating process in 2005. “The strategy of seeking sovereign credit rating was also to subject the Ghanaian economy to greater market scrutiny and surveillance and thus enhance accountability and transparency.”

Though not investment grade the first ratings assessments — a B+ by Standard and Poor’s and a “B Positive Outlook” by Fitch Ratings — were nonetheless testaments to the track record that Ghana was forging at the time and as far as the GOG was concerned, they represented a good starting point to build on.

Bawumia has documented the case for the necessity of external loans to help fill the savings-investment gap. The Eurobond 2017 issued in 2007 are an example of one such loan. The estimate at the time ranged between US\$2.5 billion and US\$3.5 billion a year. The security needs for the oil and gas sector, including the acquisition of four (4) Fast Patrol Boats and two (2) Fast Attack Craft [paragraph 1026 of 2012 Budget Statement] and infrastructural installations [paragraph 1208] would increase the gas some more. It is in this context that the China Development Bank (CDB) facility should be viewed.

The US\$3 billion China Development Bank (CDB) Facility

- The US\$3.0 billion loan facility from the China Development Bank (CDB) is planned to be utilized to reduce the infrastructure deficit of the country by undertaking a number of infrastructure projects in the oil and gas, road, rail, health, education, water and other sectors.

A statement signed by a Deputy Minister of Information, Mr. Samuel Okudzeto Ablakwa, issued in Accra on Tuesday January 3, 2012, provided clarification on procedural issues that had been raised in respect of the loan facility. According to the statement:

- 1) The CDB Board for its part approved the Master Facility Agreement (MFA) in June 2011 before the Minister of Finance tabled it in Parliament that month;
- 2) the Master Facility Agreement (MFA) approved by Parliament in August 2011 was signed in December 2011 only after the International Monetary Fund (IMF) had granted the waiver on the non-concessional financing;
- 3) the availability period for drawing on the two tranches (US\$1.5 billion each) under the MFA was five years [That was because the government was aware that the oil/gas pipeline and processing plant, the Takoradi Harbour and Volta Basin/coastal landing sites, Accra Plains Irrigation and the Takoradi-Kumasi railway line envisaged under the loan facility would take time to be fully implemented. Disbursements from the facility would therefore be spread over five years — see also paragraph 1210 of the 2012 Budget Statement].
- 4) The oil-gas subsidiary agreement and contracts, especially the subsidiary agreement for oil/gas and related infrastructure projects, were tabled in December 2011 during the last sitting of Parliament.
- 5) The joint Finance and Energy committees of the House started a review before the recess but it was the heavy workload relating to the 2012 Budget that prevented the House from approving the agreement.
- 6) An important requirement for passing the subsidiary agreements is a contract for works in relation to the projects, which is what government has signed with SINOPEC. There is no question about circumventing the process; and finally,
- 7) given the ongoing reinjection and flaring of gas that could damage the Jubilee Field and result in enormous economic losses, the government negotiated with the CDB and the contractor for pre-financing critical aspects of the oil-gas project, after approval had been given to SINOPEC as contractor.

Proposed Use of the China Development Bank Facility

- The infrastructural projects identified to be funded by the China Development Bank (CDB) loan are in respect of both the oil and gas as well as the non-oil sectors of the economy [paragraph 1208 of the 2012 Budget Statement]:

A. Oil and Gas Sector

- Western Corridor Gas Infrastructure Project (Helicopter Surveillance Fleet for Western Corridor “Oil Enclave”);
- Western Corridor Petroleum Terminal Project; and
- Development of ICT Enhanced Surveillance Platform for Western Corridor “Oil Enclave”.

B. Non-Oil and Gas Sector

- Accra Metropolitan Area Intelligent Traffic Management Project;
- Accra Plains Irrigation Projects;
- Coastal Fishing Harbours and Landing Sites Project;
- Eastern Corridor Multi-Modal Transportation Project;
- Western Corridor Infrastructure Renewal Project — Western Railway Line Modernization Takoradi Port Rehabilitation/Retrofit;
- Sekondi Free Zone Project; and
- SME Projects Incubation Facility.

Most importantly, for efficiency in use and value-for-money considerations, the Government commits to ensure that each project is supported by robust feasibility and financial viability studies. The disbursement of funds for the projects will be scheduled for consistency with the agreed programme targets with the IMF and the World Bank, and the medium term fiscal sustainability plan [2012 Budget Statement, paragraph 1210; emphases added].

Public Private Partnerships (PPP)

- The private sector shows up as a much smaller contributor for Africa. Nearly two-thirds of private sector finance went into telecommunications. “And as African countries were gearing up to attract private participation, many sponsors were pulling out of developing countries, driven by pressure from shareholders to exit uncertain markets and reduce risk.”

Inclusive of a risk premium, the cost of capital in this sector is quite high and may shoot past the point where most new infrastructure projects can generate adequate private return. The risk premium is exacerbated by the significant currency mismatch that exists in many infrastructure transactions, where revenue streams denominated in local currency do not match foreign currency debt obligations.

Innovative financing arrangements and instruments are emerging and should be encouraged. One such arrangement involves ODA being used to leverage private sector finance by underwriting risk in public-private partnerships (PPPs) in infrastructure investment and service provision. An example here is the South Africa Regional Gas Project which has mobilized about US\$1 billion in private sector investments by combining a World Bank partial risk guarantee and Multilateral Investment Guarantee Agency (MIGA) political risk guarantees with International Finance Corporation (IFC) equity [Ndulu (2007), pp. 159-160].

One of the major reasons given for why donors turned away from investing in the 1990s was “the belief that the private sector would step in and fill the gap” [ibid, page 162]. The unwarranted assumption was that “since many infrastructure investments could be expected to be profitable in

more liberalized environments, donors would turn to providing truly public goods. Unfortunately these expectations were not realized (ibid, emphasis added).

Private participation has taken different forms including asset sales/privatization concessions, build-own-operate and build-operate-transfer schemes, management contracts and leasing.

The main brake on private investment in infrastructure is limited profitability. Research has suggested that returns to capital in low income countries have to be twice the returns expected in developed countries. This means that, all other things remaining the same, the average tariff required to generate the minimum required rate of return will have to be higher than in developed countries. This is a difficult position for developing country governments to take, and the mechanisms and fiscal resources to subsidize these services to make them more affordable may not be present Ndulu concludes [page 163, emphasis added].

Thus, while PPP offers some obvious advantages in expanding infrastructure services it is no panacea (ibid).

According to the 2012 Budget, Government's policy to accelerate the delivery of infrastructure and public services, a national public-private partnership (PPP) policy has been launched. Government will use the following instruments to support the implementation of the PPP policy:

- A Project Development Facility to finance upstream investment appraisal, value-for-money assessment and other feasibility and safeguard studies;
- Viability Gap schemes to provide financial support for PPP projects that are economically essential but not commercially viable; and
- Infrastructure Finance Facility to raise the requisite long-term local currency financing for on-lending at commercial rates to private sector partners for PPP projects.

[2012 Budget Statement; paragraph 1211].

Conclusion

- Ghana faces many constraints to growth. Based on our historical experience of aid dependence — with the HIPC and the multilateral debt relief initiatives, and the arguments advanced by Bawumia, the most binding constraint on infrastructure provisions and economic growth that Ghana faces is the savings-investment gap. Domestic savings have proven inadequate; and in spite of efforts made to improve domestic resource mobilization, there still exists a residual savings-investment gap which calls for external financing.

Five years ago, this constraint led to the issuance of Ghana's first Eurobond (2017) of US\$750 million. Similar conditions, including for the oil sector, have led to the China Development Bank loan facility. Rather than focusing on the need for such a loan, the debate should focus on the uses of the loan and the commitments given by Government, particularly in paragraph 1210 of the 2012 Budget Statement. Deriving value-for-money from these resources requires that they be self-financing — and most importantly for poverty reduction — with jobs for the youth.

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