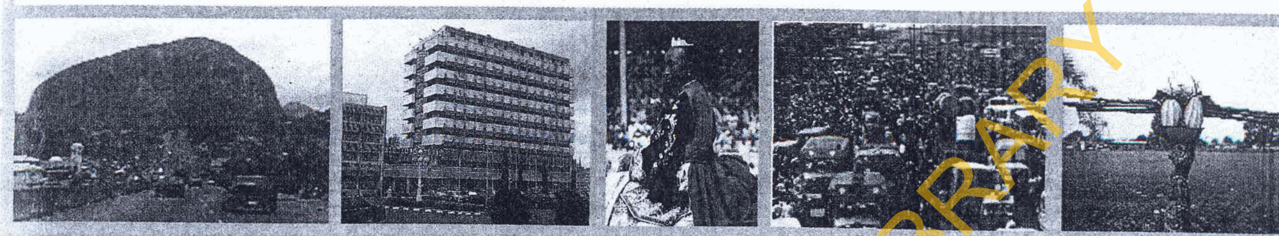
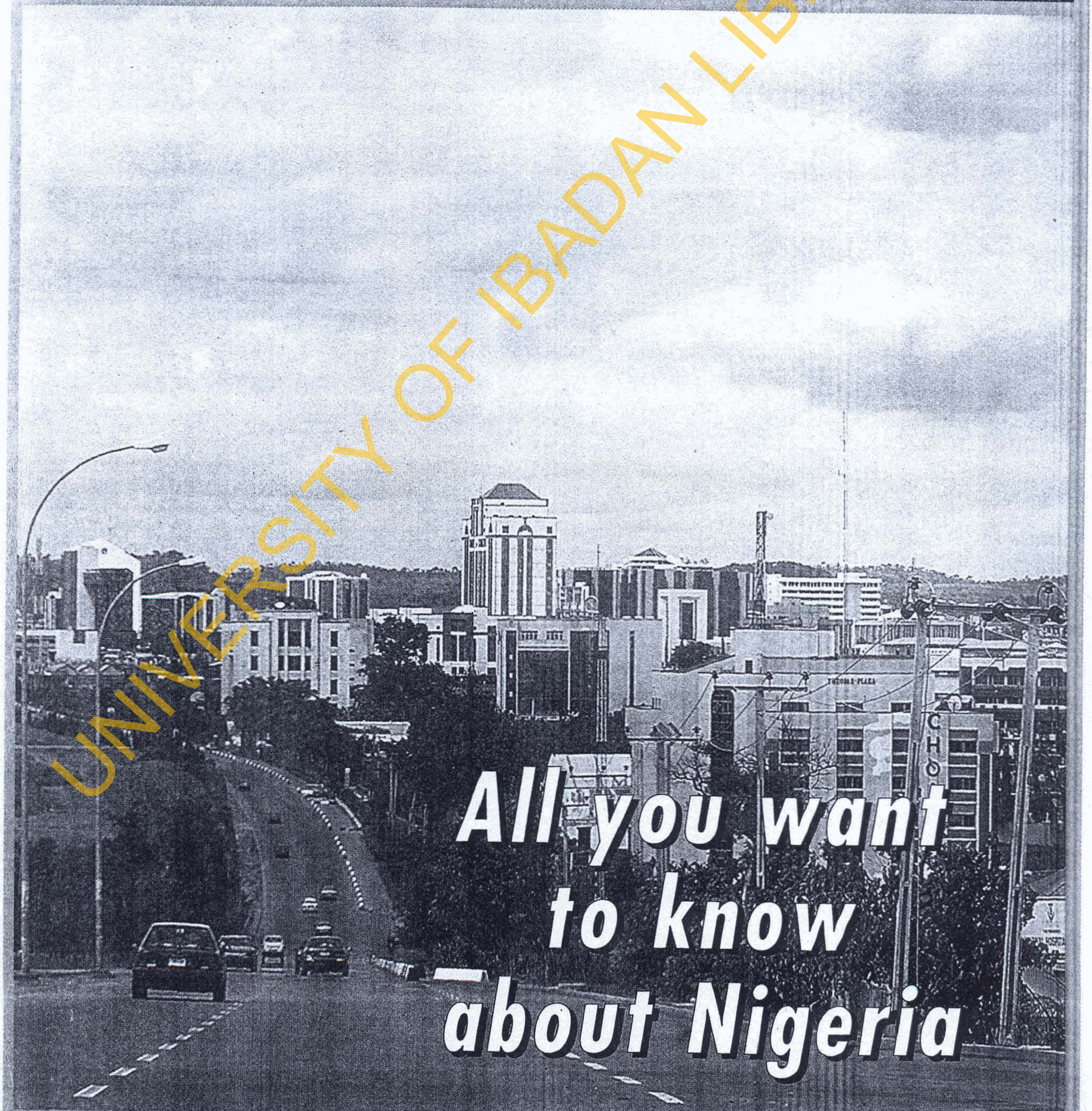
Ajayi, D. D. (2009) Petroleum, Solid Minerals, Industrial and Power Sectors. In: Nigeria Handbook: All You Need to Know About Nigeria, Published by the Federal Ministry of Information and Communication. Abuja, Nigeria. Chapter 11, pp. 95-102. –France (100.0%)

NIGERIA HANDBOOK





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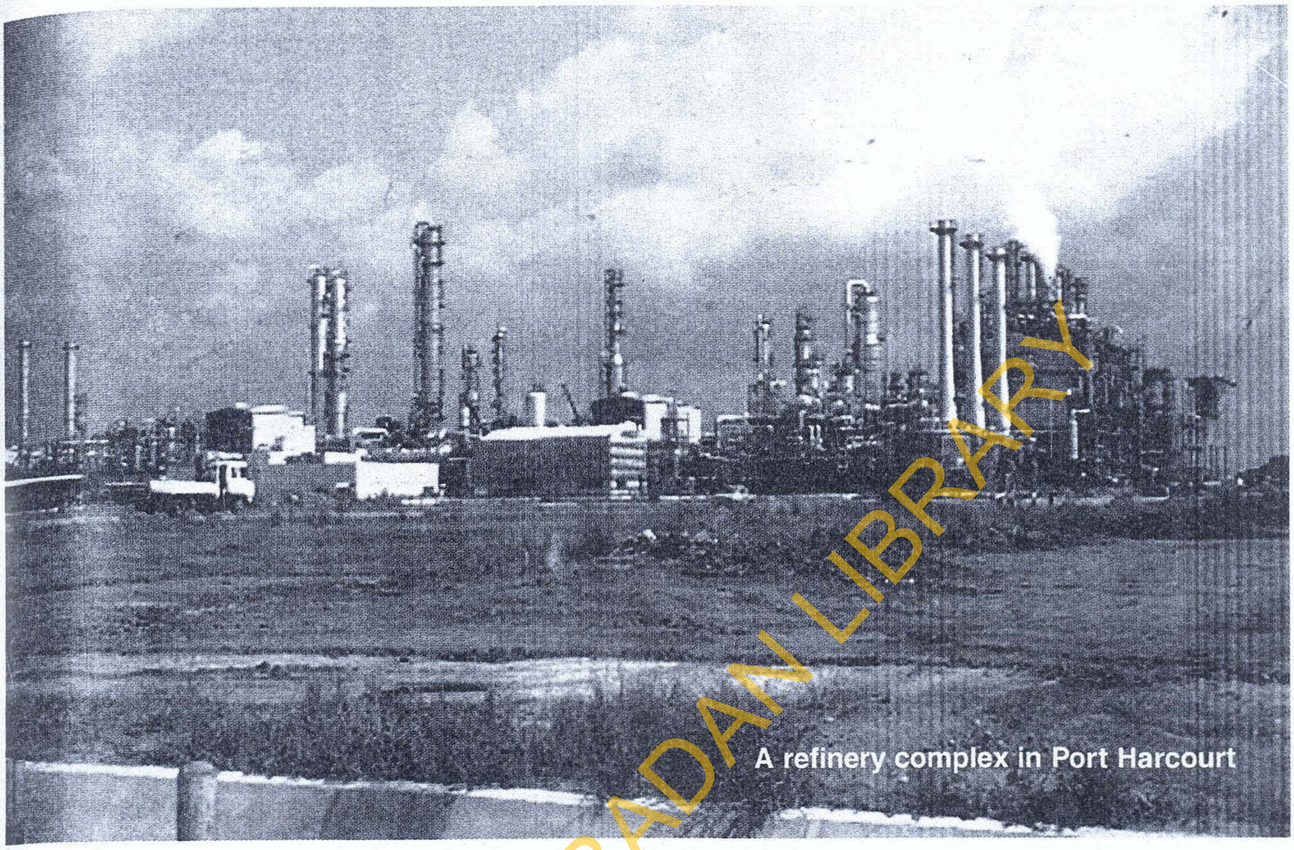
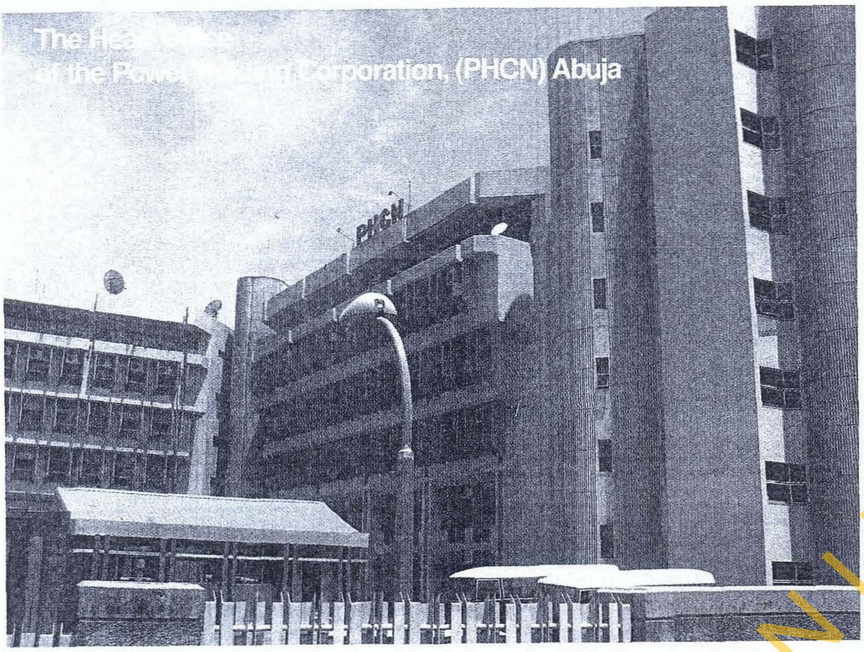


A refinery complex in Port Harcourt

PETROLEUM, SOLID MINERALS, INDUSTRIAL AND POWER SECTORS

Energy, mines, and power are key areas of Nigeria's development and are closely related. Consequently, it is essential to bring into the focus their key components : petroleum and natural gas, the Federal Ministry of Petroleum, Nigeria National Petroleum Corporation, and Multinational Oil Companies. It is also noteworthy to highlight the progress made so far in solid mineral development, growth in manufacturing, as well as electricity production, transmission and distribution.

Ph. E. Igah


The Head Office of the Power Holding Corporation, (PHCN) Abuja

PETROLEUM AND NATURAL GAS : BRIGHT PROSPECTS

Petroleum resources remain the bedrock of Nigeria's economy. Crude oil production and the revenues derived from it increased tremendously over the years. Nigeria's aggregate crude oil production, including condensates, which was 2.08 million barrels per day in 2002 increased to 2.33 barrels per day in 2003. This represents an increase of 10.4 per cent. Crude oil production was 2.5 million barrels per day in 2004 and increased to 2.53 million barrels per day in 2005. This fell to 2.23 million barrels per day (mbd) in 2006. The shortfall in oil output was due to several production short-downs, especially by the Shell Petroleum Development Company (SPDC), Exxon Mobil, Nigerian Agip Oil Company (NAOC) and Chevron. These short-downs followed persistent disruption of oil operations and vandalization of oil production facilities in the Niger Delta area. Also, the aggregate production cut by the Organisation of Petroleum Exporting Countries (OPEC) from 27.5 mbd in 2006 reduced Nigeria's quota by 10,000 bpd to 2.206 mbd. It is expected however, that the production rate will increase in 2007, especially with the relative peace in the Niger Delta area since the inception of the present administration.

The production of natural gas, which rose from 53,011.5 million cubic metres (MMm^3) in 2003 to 57,746.7 MMm^3 in 2004, fell slightly to 57,369.4 MMm^3 in 2005, but increased again to 57,753.7 MMm^3 in 2006. The marginal increase in natural gas production was attributed to the operations of some new oil fields, prominent among which was the 200,000 barrels per day Bonga oil field being operated by Shell Petroleum Development Company (SPDC). Out of the quantity produced, 31.8 per cent was flared, while 68.2 per cent was utilized. For instance, gas sold to industries, including the Nigeria Gas Company (NGC), the Power Holding Company of Nigeria (PHCN) as well as cement and steel companies stood at 3.1 per cent. Gas converted to natural liquids and gas-lift accounted for 7.9 and 1.8 per cent respectively. The oil-producing companies used 4.5 per cent as fuel gas. The foregoing portends a bright future for gas production and utilization in Nigeria against the flaring of over eighty per cent as obtained in times past. This reduction in gas flaring has been due to government concerted efforts at providing more gas for domestic consumption as well as for export through the West Africa Gas Pipeline (WAGP). There are existing and planned gas utilization projects. These include the Liquefied Natural Gas (LNG) plant in Bonny, and the planned ones at Brass, Escravos, and Forcados. In spite of this development, further expansion in natural gas production was constrained by the substantial reduction in oil production.

The Federal Ministry of Petroleum

The Federal Ministry of Petroleum in Nigeria today is directly under the Presidency. It controls and supervises the works of its major agencies as would be revealed in the section that follows.

Nigeria National Petroleum Corporation (NNPC)

The Department of Petroleum Resources (DPR) started as a Hydrocarbon Section of the Ministry of Lagos Affairs in the early fifties. It was set up as the first statutory agency to supervise and regulate the petroleum industry in the country reporting to the Governor-General. It was later upgraded to a Petroleum Division within the then Ministry of Mines and Power. The Division, in 1970, became the Department of Petroleum Resources (DPR). The Department has continued to oversee all the activities of companies licensed to engage in any petroleum activity in the country, with the objective of ensuring that national goals and aspirations are not thwarted, and that oil companies carry out their activities according to international oil standards and practices. It also keeps records and other data of the oil industry's operations and informs Government about all activities and occurrences in the petroleum industry.

A Filling Station

Ph. E. Igah

Nigerian National Petroleum Corporation (NNPC)

The Corporation has the sole responsibility for upstream and downstream developments. It is also charged with regulating and supervising the oil industry on behalf of the Nigerian Government. In 1988, the spectrum of oil industry operation: exploration and production, gas development, refining, distribution, petrochemicals, engineering, and commercial investments were put under specific subsidiaries. The subsidiary companies include :

- National Petroleum Investment Management Services (NAPIMS) ;
- Nigerian Petroleum Development Company (NPDC) ;
- The Nigerian Gas Company (NGC) ;
- The Products and Pipelines Marketing Company (PPMC) ;
- Integrated Data Services Limited (IDSL) ;
- Nigerian Liquefied Natural Gas Limited (NLNG) ;
- National Engineering and Technical Company Limited (NETCO) ;
- Hydrocarbon Services Nigeria Limited (HYSON);
- Warri Refinery and Petrochemical Company Limited (WRPC) ;
- Kaduna Refinery and Petrochemical Company Limited (KRPC) ;
- Port Harcourt Refinery Company Limited (PHRC);
- Eleme Petrochemicals Company Limited (EPCL) ;

Ph. E. Igah


Head Office of the Nigerian National Petroleum Corporation (NNPC) Abuja

In 1971, a new body, called the Nigeria National Oil Corporation (NNOC) was created to engage in commercial activities in the petroleum industry with the DPR continuing to perform the statutory role of supervision and control of the oil industry. The DPR was in 1975 constituted into the Ministry of Petroleum Resources (MPR) after energy matters were excised and transferred to another arm of Government. In 1977, MPR and NNOC were merged to form the Nigerian National Petroleum Corporation (NNPC). In 1985, a new Ministry of Petroleum Resources (MPR) was again created, while the Petroleum Inspectorate remained in the Corporation and retained its regulatory functions. In 1988, with the commercialization of NNPC, the Petroleum Inspectorate was excised from the Corporation, due to non-commercial nature of its functions, and then merged with the new Ministry of Petroleum Resources to form its technical arm.

In addition to these subsidiaries, the industry is also regulated by the Department of Petroleum Resources (DPR), a department within the Ministry of Petroleum Resources. The DPR ensures compliance with industry regulations; processes application for licenses, leases and permits, establishes and enforces environmental regulations. Both DPR and NAPIMS play very crucial role in the day to day activities of the industry.

The NNPC was realigned with the Ministry of Energy in 2006, as the Government merged the Ministries of Petroleum Resources and Power and Mines together to form a single entity. The Federal Government is currently exploring several joint venture oil funding mechanisms under the ongoing restructuring exercise to determine the best suited strategy for the growth of the oil and gas industry in the immediate, medium, and long terms. In this regard, the NNPC is carrying out some re-organisation to prepare the Corporation for the impending oil and gas industry restructuring exercise.

Oil Multinational Companies

The activities of large oil companies such as the Shell Petroleum Development Company (SPDC), Exxon Mobil, Nigerian Agip Oil Company (NAOC) and Chevron, etc. (some of them products of mergers and acquisitions) have raised much concern and criticisms. The SPDC is currently the largest oil and gas production company in Nigeria today, accounting for more than 50 per cent of Nigeria's crude oil output, and maintains control over 60 per cent of the commercially viable oil-bearing land in Nigeria.
Oil could potentially have allowed Nigeria to be one of the wealthiest countries in Africa, but this is yet to materialise. Rather, this "dark nectar" has become a bone of contention among various actors, particularly the people in the oil-rich Niger Delta, transnational oil corporations, and the Federal Government. The people of the Niger Delta have over the years brought into limelight their case against the

oil corporations which have through their activities impacted negatively on the livelihood of neighbouring local communities. Oil exploration and mining activities constitute a danger to the environment, health, farming and fishing and potable water resources.

Criticisms abound about the way the oil companies have neglected the surrounding environment and health of the local communities of the Niger Delta, one of the richest areas in terms of biodiversity in Nigeria. However, increasing involvement of some oil companies in local development can be observed in some parts of the Niger Delta and should be encouraged. Furthermore, the Niger Delta Development Commission, NDDC, set up by the Federal Government has in the past years been taking up the daunting task of providing the thrust and creating an enabling environment for the accelerated development of the Niger Delta region. The new government of President Umaru Musa Yar'Adua pledged from the onset to make the development of the Niger Delta one of its priorities. This is already reflected in the 2008 budget and the creation recently, of the Ministry of Niger Delta Development. Concerted and sustained effort by the Federal Government through the NDDC, the governments of the Niger Delta states and the oil corporations to address the environmental and developmental challenges of the region is a key to its stabilisation.

Solid Minerals : revitalisation in progress

The recently created Ministry of Solid Minerals Development has been a major stimulus to the Nigerian mining industry. Solid minerals offers a viable alternative to petroleum for foreign exchange earning as obtained in other parts of the world. Nigeria currently earns about $89 million per annum from solid mineral production. With the restoration of democratic government, a bright prospect awaits solid minerals development.

Several factors have stimulated the mining sector. First is the diversity of Nigeria's metallic and non-metallic minerals. Secondly, international investors are prepared to bear exploration costs and risks, given the favourable policy framework. The new National Solid Minerals Policy of the Federal Government, which replaced the old mining laws and regulations, has offered a competitive environment for solid minerals development. Thirdly, in the international technology market, low-cost mineral production processes are available, which, if properly sourced and assembled, will minimize production costs, thereby ameliorating the impact of falling mineral commodity prices as has been the case with previous metals and gold. Deregulation of the mining sector under the Nigerian Investment Promotion Council Decree 1995 allows for 100 per cent foreign ownership of mining operations and other related enterprises.

Free reparation of capital, profits and dividends are added incentives. The World Bank finance for mining is now readily available through several agencies. These include the Multilateral Investment Guarantee Agency (MIGA), the International Bank for Reconstruction and Development (IBRD), the International Finance Corporation (IFC), which funds mostly private sector activities, and the International Development Association. Arising from these, solid mineral production increased substantially in 2006. Aggregate output rose several folds from 4,471,113 tonnes in 2005 to 36,031,216 tonnes in 2006. This increase was accounted for by the rise in the production of all the minerals except tin, red alluvium, dolomite, silica sand, basalt, granite and mica that were not produced at all.

Manufacturing : consolidating the growth

In 2003, manufacturing accounted for 4 per cent of the GDP, down from 13 per cent in

1983. Nigeria, its large population notwithstanding, had very little industrial development, a few tanneries and oil-crushing mills that processed raw materials (valorization) for export. During the 1950s and 1960s a few factories, including the first textile mills and food processing plants, opened to serve Nigerians. During the 1970s and early 1980s, industrial production increased rapidly, especially in Lagos, Kaduna, Kano, and Port Harcourt. Factories also appeared in smaller, peripheral cities such as Calabar, Bauchi, Katsina, Akure, and Jebba, due largely to government policies at encouraging decentralization.

Nigeria's major manufactures are food and beverages, cigarettes, textiles and clothing, soaps and detergents, footwear, wood products, motor vehicles, chemical products, and metals. Small-scale manufacturing businesses engage in weaving, leather making, pottery making, and woodcarving. The smaller industries are often organized in craft guilds along family lines, passing skills from generation to generation.

Diversification

Attempts to broaden Nigeria's industrial base by the government heralded heavy investment in joint ventures with private companies since the early 1980s. The largest of such project is the integrated steel complex at Ajaokuta built in 1983 at the cost of $4 billion. The government has also invested heavily in petroleum refining, petrochemicals, fertilizers, and implements for assembling automobiles and farm equipment. Government policies have hampered industrial development to the extent that it became difficult to obtain sufficient raw materials and spare parts. Perhaps, this accounts for the low capacity utilization amongst manufacturing firms in the country. In the mid-1990s, the government introduced a series of reforms, including an allowance for greater foreign ownership in Nigerian industries, loosening of controls on foreign exchange, and the establishment of an Export Processing Zone (EPZ) at Calabar.

Revitalisation

The revitalization of the industrial sector to promote the development of other sectors and the entire economy attracted a major consideration in the National Rolling Plans, as the policy objectives included the achievement of maximum growth in investment and output, and expansion of employment. An average growth rate of 0.8 % was projected in the First Rolling Plan (1990-1992) for this sector. This was expected to increase its share of the GDP to slightly over these targets and expected to be achieved through improvement in capacity utilization in existing industries and increased investment in new ones, as well as more effective implementation of relevant policy – reform measures. Theses policy measures include strengthening administrative machinery, implementation of the privatization and commercialization policy, local sourcing of material raw materials, and the promotion of Small-scale industries.

For instance, the policy thrust legalizing commercialization and privatization of Public Enterprises (PE's) now Bureau for Public Enterprises (BPE) was promulgated (Commercialisation and Privatization Decree No. 25 in 1988). Other industrial policy instruments include the then New Industrial Policy of 1989 widely accredited as a replacement of the amended indigenization policy of 1977 to specifically encourage foreign investments and allowing indigenous businesses to benefit from the National Economic Reconstruction Fund (NERFUND), and the Nigerian Investment Promotion Decree No. 16 and the Foreign Exchange (Monitoring and Miscellaneous Provision) Decree No.17 of 1995. All these are directed at both indirect and direct investment in the Nigerian economy for improved productivity, growth and development.

There has been expansion in the manufacturing production in recent years. This is traceable to improvements in the operating environment, resulting from a number of factors. First is the retention of 100 per cent physical inspection of goods at the ports. Others include the intensified surveillance by the National Agency for Food, Drugs Administration and Control (NAFDAC) and the Standards Organisation of Nigeria (SON) to check the influx of fake and sub-standard products into the country and their counterpart local production, as well as the prohibition of the importation of a number of items. These measures have made import dearer and, thus induced the patronage of local manufacturers and their products.

Another contributory factor to the growth of the manufacturing sector is the effect of increased utilization of the Small and Medium Industry Equity Investment Scheme (SMIEIS) fund by manufacturers. Enterprises that utilized the facility recorded increases in their capacity utilization and levels of employment. For instance, the capacity utilization which increased from 44.3 per cent in 2002 to 46.2 per cent in 2003 and 45.9 per cent in 2005. With the performance of basic infrastructure facilities like regular electricity and water supply, railways and access to cheaper machinery and equipment, the manufacturing sector will be able to utilise optimally the potentially huge consumer demand in the country.

ELECTRICAL POWER PRODUCTION AND DISTRIBUTION : the challenges ahead

Power Holding Company of Nigeria (PHCN) as we know it today developed from the Electricity Corporation of Nigeria (ECN), established in 1950 to control all the existing diesel/local isolated power plants (undertakings) all over the country. After about 20 years, ECN was merged with the Niger Dams Authority (NDA) to become the National Electric Power Authority (NEPA). In 2004, as a result of the reform programme of Government, Power Holding Company of Nigeria was established after NEPA was unbundled into six succession generation companies, one transmission and eleven distribution companies.

The Bureau of Public Enterprises (BPE), on May 20, 2005, named the Power Holding Company of Nigeria (PHCN), as the new government incorporated body that will take over all assets and liabilities of the National Electric Power Authority (NEPA). This was in preparation for the full privatization of electricity generation and distribution in the country. The Electric Power Sector Act 2005 focuses mainly on restructuring/unbundling of NEPA. This means the creation of a regulatory body that will license and regulate the generation, transmission, distribution and supply of electricity. In addition, the Act is to provide for the determination of tariff. In effect, the re-organization and privatization is expected to bring about a revolution in this industry.

The Electric Power Sector Reform Act 2005 establishes the Nigerian Electricity Regulatory Commission (NERC) with regulatory powers vis-à-vis regulated companies in the electricity industry. The powers include tariff setting and regulation, supervision of market rules, performance monitoring, and overseeing the orderly transformation of the power sector to a more competitive environment; and also provides for licensing of market participants in the areas of generation, transmission, system operation, distribution and trading in electricity

The National Grid : Production and distribution capacities

Nigeria, after notching up very rapid advances in the power sector in the 1960s and 1970s, reached its limit of growth in the 1980s and thereafter entered a period of stagnation. No new power station was built between 1990 and 1999. Consequent upon this, the state of the power supply depends on the available capacity of the existing power

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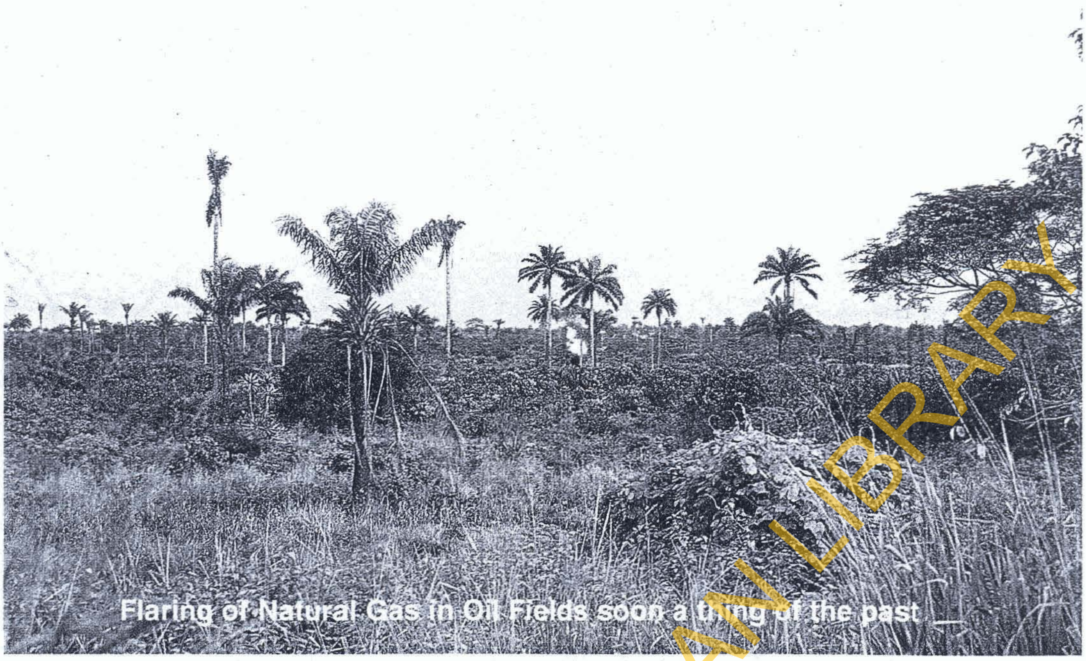

Flaring of Natural Gas in Oil Fields soon a thing of the past

stations. The transmission network was radial and fragile and the distribution network old and over loaded in most cases.

Since 1999, restoring economic growth has become very urgent, hence government started re-investing in the power sector. Government has set to improve power generation from 4,000 to 20,000 megawatts in the first instance, and to over 37,500 megawatts in the near future. The challenge therefore is how to balance the inefficiencies in this sector with capital to expand and rehabilitate the existing system with the present low tariff. The current power installed capacity in Nigeria is 5,600 megawatts which is expected to increase to 10,000 megawatts. It is important to increase power generation. The whole of Nigeria is now using less that 4000 megawatts while the demand stands at about 25,000 megawatts.

A new policy implementation framework has been put in place to realise this objective. The government has now created power generation companies, **GenCos,** transmission companies, **Tran Syscos** and distribution companies, **DisCos.** GenCos will see to the generation and maintenance of power from the power stations, Trans Syscos will be responsible for the transmission of the generated power, while DisCos are to take charge of the final delivery to the end users. In other words, as DisCos a company can buy power from the GenCos of your choice and resell to the end users. It is expected that the number of privately owned electricity companies will increase in Nigeria. About N1 trillion or $8 billion equivalents would be invested in the Nigerian power industry by private investors in the next few years. The Nigeria Electricity Regulatory Commission has thus issued over 20 licenses to independent power producers. The expected investment would be made with those licenses, while power generation level in the country will be boosted by about 8,000 megawatts by the new IPPs. More licenses would be issued as long as applicants satisfy the conditions stipulated by the Commission, which entails information on their financial and technological capacities to build power plants. Nigeria would need $90bn investment to generate about 70,000 mw of electricity required to power its economy in the next decades ■