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REPORT AND RECOMMENDATION

OF THE

PRESIDENT

TO THE

EXECUTIVE DIRECTORS

ON A

PROPOSED LOAN

TO THE

ELECTRICITY CORPORATION OF GHANA

AND A

PROPOSED CREDIT

TO THE

REPUBLIC OF GHANA

FOR A

THIRD POWER PROJECT

March 8, 1977

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CURRENCY EQUIVALENTS

US\$1	=	Cedi (¢) 1.15
Cedi (¢) 1	=	US\$0.869
Cedi (¢) 1	=	Pesewas (P) 100
Cedi (¢) 1	=	US\$869,565

WEIGHTS AND MEASURES

1 Kilometer (km)	=	0.621 mile (mi)
1 meter (m)	=	3.281 feet (ft)
1 square kilometer (km ²)	=	0.386 square mile (mi ²)
1 kilogram	=	2.205 pounds (lb)
1 ton	=	1.102 short ton (sh. ton) 0.984 long ton (lg ton)
1 barrel (bbl; 0.159 m ³)	=	42 US gallons (gal)
1 kilowatt	=	1,000 Watts (W)
1 Megawatt	=	1,000 kW
1 Gigawatt	=	1,000,000 kW = 1,000 MW (=10 ⁶ kW)
1 kilowatthour	=	1,000 Watthours (Wh)
1 Gigawatthour	=	1,000,000 kWh = 1,000 MWh (=10 ⁶ kWh)
1 kilovolt	=	1,000 Volts (V)
1 kilovolt ampere	=	1,000 volt amperes (1 kVA)
1 Megavolt ampere	=	1,00 kVA

GLOSSARY OF ABBREVIATIONS

GDP	=	Gross Domestic Product
KfW	=	Kreditanstalt fur Wiederaufbau
VALCO	=	Volta Aluminum Company
VRA	=	Volta River Authority
ECG	=	Electricity Corporation of Ghana
CEB	=	Communaute Electrique du Benin
EECI	=	Energie Electrique de Cote d'Ivoire
SWEB	=	South West Electricity Board

ECG FINANCIAL YEAR

January 1 - December 31

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

REPORT AND RECOMMENDATION OF THE PRESIDENT TO THE
EXECUTIVE DIRECTORS ON A PROPOSED LOAN TO THE
ELECTRICITY CORPORATION OF GHANA AND A
PROPOSED CREDIT TO THE REPUBLIC OF GHANA
FOR A THIRD POWER PROJECT

1. I submit the following report and recommendation on a proposed development credit for the equivalent of US\$9.0 million to the Republic of Ghana and a proposed loan for the equivalent of US\$9.0 million to the Electricity Corporation of Ghana to help finance a power project. The loan would have a term of 20 years, including 4-1/2 years of grace, with interest at 8.5 percent per annum and the development credit would be on standard IDA terms. Of the proceeds of the credit, US\$5.2 million would be relent to ECG for 20 years, including 4-1/2 years of grace, with interest at 8.5 percent per annum, US\$3.7 million would be made available to ECG as a grant for a rural electrification scheme and US\$100,000 would be retained by the Government for a power sector study.

PART I - THE ECONOMY

2. An economic report entitled "Fiscal and Balance of Payments Aspects of Ghana's Development" (638a-GH) dated May 19, 1975, was distributed to the Executive Directors in June 1975. A special economic report on export promotion and financial intermediation will be distributed shortly. Basic data are summarized in Annex 1.

Basic Economic Characteristics

3. Compared with most other West African nations, Ghana enjoys a fairly high standard of living; its annual per capita GNP, according to World Bank estimates, was about US\$460 in 1975, but this is almost certainly overstated because of the existing exchange rate. Over the past decade and a half GDP growth averaged about 2.5 percent per annum and failed to keep pace with the growth of population. There was virtually no growth in the volume of exports, which depended almost entirely on a few traditional export commodities -- cocoa (of which Ghana is the world's largest producer), gold, and timber. In addition to contributing 60 percent of the country's export earnings, cocoa provides around 30 percent of government revenue and employs upwards of 20 percent of the labor force. Although the development strategy of the early 1960s broadened the industrial base, industries remained heavily dependent on imported inputs. This strategy resulted in recurrent balance of payments crises and an accumulation of external debt.

4. Economic and social policies of the early 1960s emphasized extensive government involvement in a wide range of social services, in setting up a large number of state enterprises and in allocating resources through an extensive system of physical and financial controls. Since the mid-1960s, there

has been a growing imbalance in public finances due to rapid growth of budget current expenditures, slow growth in current revenue and uneconomic operations of several government enterprises. The imbalance has depressed government development expenditures to an inadequate level and has also been a persistent source of inflationary pressure.

5. After cocoa and timber, Ghana's principal traditional exports are gold, manganese, diamonds and bauxite. Production of most of these minerals is stagnating, mainly because of depletion of the ore reserves. However, a proposal is being considered that would open a new mine to produce bauxite for local reduction to alumina to supply the existing aluminum smelter. Ghana imports its entire petroleum requirements, mostly in the form of crude oil which is refined domestically and used chiefly as a source of fuel for the transport sector. Hydroelectric power meets most of Ghana's energy requirements.

6. Despite the economic problems of the 1960s, Ghana has devoted considerable effort to development of its human resources. The education system is well established, elementary education has been free and universal since 1962, public health facilities are fairly widespread and further expansion favors rural areas. It is the declared policy of the Government to achieve a more equitable income distribution by increasing productive investments in the rural areas, by expanding low cost rural housing and water supply, and by improving feeder roads.

Recent Developments

7. The military government that took office in early 1972 inherited a critical balance of payments position. Large medium- and short-term debts had been incurred and foreign exchange reserves were virtually exhausted, largely as a result of a liberal import policy and a decline in cocoa production and prices. In an endeavour to redress the situation, the previous Government, in December 1971, introduced a 44 percent devaluation of the Cedi in terms of the US Dollar. The new Government, shortly after taking over, revalued the Cedi, reducing the previous devaluation to about 20 percent. In addition, the Government enacted an import retrenchment program which hit the industrial and distributive sectors hard, causing GDP to fall by 3.7 percent in 1972. A recovery followed in the next two years (growth rates of 4.6 and 4.9 percent) encouraged by a greater availability of imports, but in 1975 there was virtually no rise in GDP.

8. A strong improvement in the balance of payments in 1972 and 1973, brought about by import controls and favorable price developments for cocoa, gold and timber, ended abruptly in 1974 when the impact of higher oil prices and a breakdown of the import licensing system caused an acute foreign exchange crisis. The situation was reversed in 1975 - at the end of which exchange reserves had increased to \$150 million (about two months imports) - following a re-enforcement of import controls and a drawing on the IMF Oil Facility. At the end of December 1976, exchange reserves amounted to US\$104

million, equivalent to about six weeks imports. Recently, the world cocoa price has risen sharply, partly in response to an expected poor harvest in West Africa. Higher export earnings for cocoa, in spite of a lower volume, should therefore ease the foreign exchange position in the near future. Advantage should be taken of this situation to correct some of the presently severe distortions in the domestic price/incentive structure which is heavily biased against exports, enables large profits to be made by importers and is resulting in a serious misallocation of domestic resources.

Public Finance

9. The steep rise in cocoa prices and efforts by government to expand non-cocoa revenue have substantially increased revenue collections. Current expenditure, however, has risen even more rapidly, resulting in extensive borrowing from the Bank of Ghana to finance development expenditure. This has been a major factor contributing to the high rate of increase in domestic prices, which has been aggravated by imported inflation, the inhibiting effects of import controls on domestic industrial production and the effects on domestic food and agricultural availability of two years of low rainfall. The cost of living rose by 30 percent in 1975, and increased to a rate of 50 percent per annum during 1976; there are now widespread shortages of many types of consumer goods. Revenue and expenditure measures announced in the 1976/77 budget are intended to produce a smaller deficit than in the previous year. On the revenue side the major changes include higher excise duties and the introduction of a uniform 10 percent import license levy. The currently high cocoa price should temporarily improve revenues, but much more stringent controls will have to be imposed on public expenditures if inflation is to be checked.

Prospects

10. A Five-Year Development Plan, covering the period 1976-1980, shows a target rate of GDP growth of 5.5 percent per annum. However, sharp fluctuations in revenue and export earnings will continue to hamper an effective development policy in Ghana, since diversification away from cocoa can proceed only gradually. Recent measures on the balance of payments and the budget reflect an awareness of needed policy directions, but the severe external resource constraint and the rate of inflation require difficult policy decisions in the near future to restore external and domestic equilibrium.

11. Ghana's growth prospects over the next five to ten years will depend to a considerable extent on the effective implementation of appropriate policies to deal with the problems outlined above. Key policy measures should aim at: (a) correcting the imbalance on external account through a more realistic structure of prices and costs; (b) reducing the strong inflationary tendencies associated with large public sector deficits; (c) promoting an expansion of domestic production through more appropriate price incentives, more assured supplies of necessary inputs and greater productivity of investment. It is difficult at present to assess the likelihood of the Government taking all the economic policy measures necessary to restore equilibrium on

the external account and provide a more secure basis for accelerated growth in the domestic economy. Some important policy actions have already been taken. Fertilizer subsidies are being phased out, cocoa producer prices have been increased, as well as public utility rates and agricultural interest rates, and recent budgets have attempted to limit the growth of current expenditures. While these measures represent important steps the pace of implementation is still too gradual given the severity of Ghana's economic problems, and a considerably reinforced effort will be required over the next few years to achieve correction of the economy's structural imbalances.

External Debt and Creditworthiness

12. An agreement on a long-term rescheduling of Ghana's medium-term external debt was concluded in March 1974. Under this agreement, all payments due after February 1, 1972, in respect of pre-1966 debt obligations, will be paid over a period of 28 years, including a grace period of 10 years, with an interest rate of 2-1/2 percent per annum. Pre-1972 trade credit arrears are gradually being cleared. At the end of February 1976, these amounted to US\$61 million, compared to US\$188 million at the end of 1972. Remittance of profit and dividends is still restricted. The current external debt service ratio is only about 3.5 percent and is expected to drop to about 3.0 percent by the end of the decade and then rise, when the grace period on the rescheduled debt expires in 1982, to around 7.0 percent in the late 1980s. The Bank Group's share of Ghana's total external debt service in 1975 is estimated at about 18%; this is expected to rise to about one-third by the end of 1980 and gradually decline thereafter as a result of the terms of the debt rescheduling agreement. Ghana is relying on official sources for the bulk of the external capital required to support its development program, and relatively little of its medium and long-term borrowing will be on commercial terms. The March 1974 agreement with creditors on rescheduling helped provide the foundation for a resumption of assistance. Canada, Germany, the United States, the Arab Funds, the U.K. and the European Economic Community have indicated a willingness to commit substantial capital assistance, most of which will be provided on soft terms. Bank Group Lending, as a proportion of total external public debt, is expected to increase from about 14 percent in 1975 to about 25% by the end of the decade. In view of the very low present and prospective debt service ratio, Ghana can be considered creditworthy for additional Bank lending. However, the country's vulnerability to fluctuations in the prices of cocoa and other primary products makes it desirable that future debt service obligations should be kept as low as possible. Continued assistance on the basis of a blend of Bank/IDA financing would appear to be justified, given the country's relatively low per capita income.

PART II - BANK GROUP OPERATIONS IN GHANA

13. Since 1962, when the Bank Group financed its first operation in Ghana, the Bank has made eight loans totaling US\$142.5 million -- two for the Volta dam and associated infrastructure works for electricity generation, one for telecommunications, one for highways, one for cocoa development, one for the National Investment Bank, one on Third Window terms for agricultural development, and one for a regional clinker plant, financed as part of the three nation (Togo, Ghana, Ivory Coast) CIMAO industrial development project; IDA has extended 12 credits totaling US\$96.3 million -- five for agriculture (including livestock, cocoa and fisheries), two for water supply and sewerage, two for power distribution and three for highways. Annex II contains a summary statement of loans and credits as of January 31, 1977, with notes on the execution of ongoing projects. There are no IFC investments.

14. The principal objectives of Bank Group assistance to Ghana are: (a) to encourage Government to adopt economic policies designed to strengthen the balance of payments and improve domestic demand management, (b) to help rehabilitate and expand production of cocoa, the country's main foreign exchange earner, (c) to promote agricultural and industrial diversification, particularly for export promotion and import substitution, and (d) to improve the country's essential infrastructure so as to relieve constraints upon economic growth. At the same time, the Bank Group's lending program will give emphasis to projects which would raise the living standards of the poorer groups of the population; particular attention would also be given, in the context of individual projects, to specific policy action (e.g. on pricing, tariffs and subsidies) designed to improve output and productivity in the economy and improve the performance of public enterprises.

15. The two power projects currently under consideration are complementary undertakings designed to meet essential power requirements for future economic growth. In line with the country's development priorities, future Bank Group lending will place increasing emphasis on the agricultural and industrial sectors. In agriculture, it is expected that a second sugar project will be prepared to help increase output of the on-going Bank-financed operation and reduce the country's dependence on imports. A second rural development project is under preparation aimed at increasing agricultural output and the incomes of small farmers in the Volta Region in Ghana. In addition further assistance is contemplated for increased cocoa output, which would strengthen Ghana's foreign exchange earnings. In industry a small scale industries project is being prepared and a second loan to the National Investment Bank will be considered in due course; both these projects should help diversify industrial production and provide wider employment opportunities. Funds from the Project Preparation Facility have been approved to help finance preparation work on the proposed Kibi bauxite/alumina project. In the social sectors, the Government has requested assistance in designing and implementing projects to improve urban development. A possible project is being prepared, with financial assistance from the Project Preparation Facility, for upgrading several low income settlements and developing sites and services in a number of urban areas; an employment component is planned to provide work opportunities in the informal sector.

PART III - THE POWER SECTOR

Bank Financing in the Sector

16. The Bank has made four previous loans to the power sector in Ghana totaling US\$70.1 million. Two loans, for US\$47 million in 1962 and US\$6 million in 1969, assisted the Volta River Authority (VRA) in building and expanding its power generating and transmission facilities, the major component of which was the Akosombo power plant on the Volta River, about 100 km northeast of Accra (see map). This six unit hydroelectric facility, with a total installed capacity of 912 MW, presently provides more than 90 percent of the country's electric power requirements. Two credits, for US\$10 million in 1968 and US\$7.1 million in 1971, assisted the Government in financing ECG's program to improve and expand its distribution systems to meet growing demand for power, particularly for industrial use. The physical execution of the projects has been satisfactory. A project performance audit report (No. 1363 of Nov. 23, 1976) of the second loan to VRA concluded that the project was implemented successfully, presented no unusual problems and that proposals for rationalizing the structure of the electric supply industry were considered but no action was taken. Audit reports on the two projects involving ECG are being prepared.

Sector Objectives

17. The principal sector objectives are to:
- (a) increase firm generating capacity in order to be able to supply the demand growth beyond 1978;
 - (b) carry out feasibility studies for the required generating and transmission line facilities for the years 1983/84 onwards;
 - (c) extend hydropower supply to areas where costly diesel generating plants are now in operation and to new rural areas;
 - (d) extend and reinforce transmission and distribution systems in order to take care of the load growth and to improve the quality of service; and
 - (e) Rationalize the tariff structure.

In addition to these sector objectives, ECG intends to improve its organization, management and accounting. The proposed project and an associated loan that will help finance the proposed Kpong hydroelectric facility, are designed to help further these objectives.

Institutional Structure

18. Two organizations, the Volta River Authority (VRA) and the Electricity Corporation of Ghana (ECG), are responsible for providing public power

supplies in Ghana. VRA, created under a special act in 1961 to construct and operate the Akosombo hydroplant, supplies bulk power to the Volta Aluminum Company's smelter at Tema, to the ECG, to the gold, diamond, and bauxite mines, to the Communaute Electrique du Benin, which in turn supplies power to Togo and Benin, and to the Akosombo township. ECG is responsible for the distribution of power throughout Ghana and the generation of public power supply in areas that cannot be economically connected to the VRA system. Both VRA and ECG have been making separate plans for the sub-sector; VRA for hydrogeneration and transmission lines, and ECG for subtransmission lines and distribution. VRA is currently conducting a feasibility study to determine the long-term development of the Ghanaian high voltage grid. The feasibility of merging ECG and VRA has been considered off and on since the mid-60s. As ECG and VRA have developed into relatively mature organizations with distinctly different functions, a merger is not expected to bring about major benefits.

19. ECG supplies electricity to all consumers requiring up to 30 MVA at a voltage not exceeding 34.5 kV. As of December 31, 1974, ECG had 138,000 consumers and sold a total of 774 GWh, of which industrial consumers accounted for about 54 percent, residential consumers 27 percent, commercial users 17 percent and losses and self-consumption the remainder. ECG's present facilities consist of: (a) 33 and 11 kV lines and related substations which receive the power from either VRA's system or ECG's own diesel plants and distribute it to consumers; and (b) 28 diesel generating stations with a total installed capacity in 1975 of 81 MW. The main diesel plants are those of Tema (33 MW installed) and Accra (15 MW installed but of low dependability).

Electricity Coverage

20. About 100 towns in Ghana receive public power supply. Except for the township of Akosombo, which receives its supply from VRA, all the towns are served by ECG. Thus about 2.25 million people in urban areas, or 25 percent of the total population, benefit from public power supply and nearly half live in a household with a power connection. In the rural areas, communities with about 263,000 people receive power, representing about 4 percent of the total rural population. Only about 10 percent of these have a connection.

21. The proposed project has been designed to meet ECG's short to medium-term needs. In addition ECG itself proposes to complete some relatively minor reinforcements and small extensions to existing schemes. Although there is no long-term program of rural electrification for the country, the Government does favor gradual extension of public power supplies to rural areas and periodically asks ECG to implement this effort. These electrification requests have been carried out by ECG without informing Government about the financial and economic viability of the investments. During negotiations, the Government agreed to consult ECG on the economic/financial evaluation of proposed rural electrification projects (Section 3.02, Guarantee Agreement).

Tariffs

22. Existing tariffs in Ghana reflect the low cost of hydropower supplied by VRA from the Akosombo plant. ECG's tariffs are based on the VRA bulk supply tariff plus the costs of distribution and operation. The small residential,

commercial, and industrial consumers pay a simple kWh charge in a declining block tariff. Large consumers pay a monthly maximum demand charge and an energy charge per kWh which decreases with kWh consumption per KVA of maximum demand. Surplus hydro energy at a zero marginal cost in the short run will be available until 1985 given the present commissioning date of Kpong and the present load forecast. While this surplus hydro energy exists it should be made available to industrial consumers for steam generation on an interruptible basis. On the other hand existing special low tariffs for firm power to industrial consumers should be eliminated because they lead to uneconomic utilization of electricity. During negotiations ECG agreed that as from January 1, 1978 all power supplied by it to its customers for steam production will be supplied on an interruptible basis (Section 4.04, Loan Agreement); ECG also agreed to eliminate the special low tariffs for firm power to industrial consumers and replace them by the normal industrial tariff at the expiration dates of the present contracts (Section 5.08, Loan Agreement).

23. Tariff restructuring and increases in level are needed to reflect the incremental costs of power in Ghana. To reflect such costs, the present ECG tariffs would need to be increased by an average of 70 percent in real terms. In view of this extremely large tariff increase, it would not be feasible to implement marginal cost pricing in the short-run. Furthermore, in order to establish a sound tariff policy, the marginal cost of electricity supplied at different locations, distribution voltage levels and types of load of the ECG system should be determined. During negotiations Government agreed to undertake a study of these costs as part of an overall power sector study to establish a framework for future tariff policy (Section 3.01, Credit Agreement). The study, which would be presented for review by the Bank by June 30, 1978, would determine the appropriate levels of tariffs which should be charged to the various categories of ECG and VRA customers, to reflect economic costs, taking into account social and wider economic considerations.

PART IV - THE PROJECT

24. The project was appraised by a Bank mission which visited Ghana in November/December 1975. A report, entitled "Electricity Corporation of Ghana: Appraisal of the Third Power Project" No. 1196-GH, dated March 1, 1977, is being distributed separately to the Executive Directors. A credit, loan and project summary is presented in Annex III. Negotiations took place in Washington from December 6 to December 10, 1976. The Government/ECG delegations were headed by Dr. S.K.B. Asante and Mr. K.A. Duker respectively.

Project Components

25. The main objectives of the proposed project are to help finance a further phase of ECG's development program, consisting mainly of expansion of subtransmission and distribution facilities, and to improve the Corporation's operations and management. The project includes the following components:

- (a) Sub-transmission and Distribution Lines: About 230 circuit km of overhead and about 20 km of underground 33 kV lines; about 6 circuit km of 11 kV overhead lines with about 11 MVA of distribution transformers. About 32 km of low tension distribution lines.
- (b) Substations: 11 new substations with about 150 MVA of transformer capacity; expansion of about 6 existing substations with about 60 MVA of additional transformer capacity.
- (c) Materials and Vehicles: Equipment and material for rehabilitating the existing sub-transmission and distribution system; heavy, medium and light weight vehicles to replace and/or expand the existing fleet;
- (d) Consultants Services: About 105 man-months of engineering services at US\$4,400 per man-month to help execute the project and two man-years of assistance to help prepare a power sector study, at an estimated cost of US\$100,000.

Project Cost and Financing

26. Project costs are estimated at US\$26.7 million (net of identifiable taxes and duties but including contingencies) with a foreign exchange component of US\$18.0 million, representing about two-thirds of the total. Since project components are well defined, a 5 percent allowance for physical contingencies seems justified. Price contingencies have been calculated separately for foreign and local components. The following table summarizes project costs, which are detailed in Annex III:

<u>Component</u>	<u>Estimated Cost</u> (US\$ million)		
	<u>Foreign</u>	<u>Local</u>	<u>% of Total</u>
Sub-transmission and Distribution Lines	6.7	3.8	39
Substations	3.6	1.3	19
Vehicles and Equipment	4.1	-	15
Consultants' Services	0.3	0.2	2
Contingencies	<u>3.3</u>	<u>3.4</u>	<u>25</u>
TOTAL	<u>18.0</u>	<u>8.7</u>	<u>100</u>

27. The proposed loan and credit of US\$9.0 million each would finance the foreign exchange component. Local costs of US\$8.7 million equivalent would be financed by internally generated funds. The proposed loan would be

made directly to ECG with the Government as Guarantor; part (US\$5.2 million) of the Credit would be relented to ECG by the Government on the same terms as the Bank loan, the portion (US\$3.7 million) related to a rural scheme (Kumawu) will be granted to ECG and the remaining US\$100,000 will be retained by Government for a power sector study.

Project Execution

28. As part of the project, ECG has hired the South Western Electricity Board, UK, (SWEB) as consultants in accordance with terms of reference acceptable to the Bank and IDA, for the design, procurement and supervision of project execution. Construction of sub-transmission lines and substations will be executed by the contractors; low tension facilities will be installed by ECG's own work force. Contracts have been awarded; supplies would be delivered during 1977 and 1978, and construction would start late in 1977 to early 1978 with phased completion from 1978 to the end of 1979.

Procurement

29. Equipment, supplies, erection and related services to be financed out of the proceeds of the proposed loan/credit would be procured under international competitive bidding in accordance with the Bank/IDA Guidelines, except for about US\$500,000 equivalent of sub-transmission and distribution equipment and materials which for standardization reasons would be procured from the suppliers of similar equipment and materials under the previous projects. Retroactive financing of up to US\$1.5 million is recommended to cover foreign exchange payments after January 1, 1976, for consulting services, and cash down payments for equipment contracts placed in accordance with the Bank Group's procurement guidelines.

Disbursement

30. The proposed loan/credit would be disbursed to cover 100 percent of the CIF cost of equipment and materials and the foreign exchange component of erection of lines and substations and consultants services.

31. There is a close inter-relationship between the proposed ECG project and the proposed Kpong project regarding extension of electricity service to the Sefwi-Wiawso-Bibiani area in southwestern Ghana. As part of the proposed Kpong project an 80 km, 161 kV transmission line and related substation would connect the area with VRA's main grid at Dunkwa while distribution lines would be provided under the proposed ECG project. It is therefore proposed as a condition of disbursement for expenditures for the related parts of the proposed project that a letter of intent shall have been issued by VRA to a contractor for the construction of the 161 kV transmission line (Schedule 1, para. 4 (a), Loan Agreement).

The Borrower

32. The Electricity Corporation of Ghana was established in 1967 as a Government-owned public utility with power to conduct its business according to commercial principles. The Ministry of Works and Housing supervises ECG, which is directed by a board of seven members, including ECG's and VRA's managing directors and representatives of the Ministries of Finance and Works and Housing.

33. The Corporation's top management team has performed moderately well. The position of Engineering Department Manager has been vacant since 1971. Technical assistance from the United Kingdom is being sought to fill the position; during negotiations ECG confirmed that the post will be filled by July 1, 1977, under this arrangement or an alternate one acceptable to the Bank. In addition, two key positions in the accounting department need to be filled, and during negotiations ECG confirmed that it would fill them by July 1, 1977. (Section 4.01 (b), Loan Agreement). So far as general personnel is concerned, ECG would appear to be overstaffed at lower levels. The present employee/customer ratio is 1 to 27 and more acceptable ratios of 1 to 50 are found in neighboring countries, e.g. Nigeria, Senegal, Ivory Coast. ECG gave assurances during negotiations that it will (a) formulate, with the assistance of experts, a staff development plan by January 1, 1978, and (b) carry out by July 1, 1977, a survey of staff training requirements and appoint a senior staff member in charge of training. (Sections 4.01 (c) and (d) Loan Agreement).

34. ECG's operations require improvement in a number of areas, especially maintenance. Weaknesses include lack of proper maintenance resulting in frequent breakdowns, power failures and unsatisfactory voltage regulation. Main reasons for these deficiencies can be traced to problems such as absence of an engineering department manager and lack of a good fleet of service vehicles which this proposed project should help to alleviate.

ECG's Finances

35. In the first year after its formation, ECG's financial performance was excellent, with a sound financial position and rates of return well above 8 percent stipulated in the previous Development Credit Agreement. However, since 1972 the performance has steadily deteriorated and profitability has shown a serious decline. Rates of return on partially revalued assets fell to 2.6 percent in 1974 and 3.3 percent in 1975 due to a slowing down in energy sales, increased wage costs and abrupt increases in fuel oil costs. ECG's liquidity was reduced to such levels that it was unable to meet its debt service obligations to the Government in 1974 and 1975 in respect of relent IDA and KfW credits (IDA Credits 118 and 256-GH). The total amount unpaid at the end of 1975 was about US\$6.2 million. However, Government has agreed with ECG to a rescheduling formula under which maturities on IDA-II (256-GH) and KfW-II have been extended from 1977 to 1982 and 1984 respectively, and repayment of all unpaid maturities for IDA-I (118-GH) and KfW-I are to be paid by the end of 1977.

36. Financial management, particularly in general accounting, financial planning and control, asset valuation, billing and receivables require improvement, and the recruitment of additional professional staff should help correct these deficiencies. In addition, ECG agreed during negotiations (a) to reduce the level of its accounts receivable by December 31, 1977, to a sum not exceeding three months' billing revenues, and (b) to undertake a revaluation of inventories and a review of the inventory management valuation system by December 31, 1977, and, after consultations with the Bank, to implement appropriate improvements (Sections 5.07 and 5.10 respectively, Loan Agreement).

37. The Government has just approved tariff increases for ECG averaging about 29 percent, effective October 1976. This action was taken in parallel with a 60 percent increase in VRA's bulk tariff to ECG, effective September 1, 1976. The new ECG tariff, plus further tariff increases of 3 to 15 percent per annum as from 1978, are expected to restore ECG's liquidity and enable it to meet by 1977 its rate of return obligation of 8 percent on the revalued rate base as stipulated under the previous Credit Agreement (256-GH) and retained for this project. Furthermore ECG will take fully compensating tariff action within three months of an event which would cause ECG's operating expenses (excluding purchased power but including debt service) to increase more than an estimated 10 percent. ECG's assets have not been revalued since 1967. During negotiations ECG agreed to revalue its assets as of December 31, 1976, by June 30, 1977, and maintain its asset valuation on a current basis thereafter. Revaluation will be carried out by applying indices for local and international inflation. Should the actual revaluation yield a value different from the estimated Cedis 69 million as at December 31, 1976, the rate of return standard would be adjusted proportionately (Sections 5.04 and 5.05 Loan Agreement) so as to insure sufficient cash generation to meet ECG's investment requirements.

38. ECG's difficult financial situation has been aggravated by the fact that the Government had failed to meet its obligations under Credit 256-GH to reimburse ECG for operating losses incurred in connection with rural electrification schemes, which ECG has executed and operated on Government's behalf. As of the end of December 1975, the Government owed an estimated US\$2.4 million on this account. The Government has now agreed to reimburse ECG for all past amounts due for rural operating losses in three equal semi-annual installments between December 1976 and 1977.

Benefits, Justification and Risk

39. The proposed project, the third Bank Group lending operation to assist ECG, would help to improve and extend the distribution of public electricity supplies in Ghana and, thereby, serve the wider goal of improved economic development. Specifically, the project would: (a) reinforce the distribution network of areas already served so as to meet increased demand; (b) replace diesel generated power by cheaper hydro power through integration of isolated areas formerly serviced either by ECG itself or, in the case of some industries, by individually owned generating units; and (c) provide for improved management of ECG itself. The project is thus closely related to the proposed Kpong project.

40. The forecast of total ECG load is based on extrapolation of the past trends for each type of consumer and on the expected new consumer developments not included in the overall trend, such as specific industrial projects. The average annual growth rate for total ECG consumption is forecast at 11 percent for the period 1975-80 and 8 percent thereafter. The proposed subprojects constitute the least-cost solution to deliver the forecast load for a period of 15 years when compared with reasonable alternatives, taking into account the standardization of voltages adopted in Ghana and other local conditions such as requirements for underground installations in some congested areas. So far as project risks are concerned, from a technical standpoint they are no greater than those normal for projects of this type, and the managerial/financial risks should be minimized as a result of the agreements entered into during negotiations and referred to in paragraphs 32 to 38.

41. The rate of return calculations show rates of return ranging from 0.1 percent in the case of the proposed distribution in Tema (mainly because of the high proportion of energy sold at very low price for industrial loads under special contracts (see para. 22)) to 21.4 percent in the case of the Accra-Weija scheme, with an overall rate, using current tariffs and other measures as proxies for benefits, of 10 percent. If benefits were assumed to be valued at marginal cost, that is 70 percent higher than existing tariff levels, the rate of return on the Tema component would be 13.9 percent and the overall rate of return would be 14.2 percent, although this still would be an inadequate measure of the actual economic benefits.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

42. The draft Loan Agreement between the Bank and the Electricity Corporation of Ghana, the draft Guarantee Agreement between the Republic of Ghana and the Bank, the draft Development Credit Agreement between the Republic of Ghana and the Association, the Report of the Committee provided for in Article III, Section 4 (iii) and Article V, Section 9 (d) of the Articles of Agreement of the Bank, the Recommendation of the Committee provided for in Article V, Section 1 (d) of the Articles of Agreement of the Association and the text of two draft Resolutions approving, respectively, the proposed loan and development credit are being distributed to the Executive Directors separately.

43. Special conditions of the project are listed in Section III of Annex IV.

44. I am satisfied that the proposed loan and development credit would comply with the Articles of Agreement of the Bank and with the Articles of Agreement of the Association respectively.

PART VI - RECOMMENDATION

45. I recommend that the Executive Directors approve the proposed loan and the proposed development credit.

Robert S. McNamara
President

Attachment

March 8, 1977

TABLE 3A
GHANA - SOCIAL INDICATORS DATA SHEET

LAND AREA (THOU KM2)	GHANA			REFERENCE COUNTRIES (1970)		
	1960	1970	MOST RECENT ESTIMATE	ZAMBIA	ECUADOR	MALAYSIA
TOTAL	238.5					
AGRIC.	..					
GDP PER CAPITA (CUSE)	250.0	340.0	460.0	330.0	330.0	440.0
POPULATION AND VITAL STATISTICS						
POPULATION (MID-YR. MILLION)	6.7	8.6	9.9	7.7	6.1	10.4
POPULATION DENSITY PER SQUARE KM.	28.0	36.0	41.0	10.0	21.0	32.0
PER SQ. KM. AGRICULTURAL LAND	..	63.0	..	16.0	..	291.0
VITAL STATISTICS						
CRUDE BIRTH RATE PER THOUSAND	50.8	49.8	48.8	43.3	45.0	42.2
CRUDE DEATH RATE PER THOUSAND	27.0	24.4	21.9	21.4	12.0	12.9
INFANT MORTALITY RATE (/THOU)	156.0	156.0	..	93.0	77.0	40.8
LIFE EXPECTANCY AT BIRTH (YRS)	36.5	41.5	43.5	41.0	57.2	56.7
GROSS REPRODUCTION RATE	..	3.2	3.2	2.8	3.3	2.6
POPULATION GROWTH RATE (%)						
TOTAL	2.2	2.6	2.7	1.9	3.4	2.6
URBAN	8.2	4.5	5.7	6.0	5.0	3.6
URBAN POPULATION (% OF TOTAL)	23.1	28.4	31.4	55.0	38.0	27.8
AGE STRUCTURE (PERCENT)						
0 TO 14 YEARS	44.5	46.9	..	45.3	48.0	44.7
15 TO 64 YEARS	52.3	49.5	..	52.7	49.0	52.1
65 YEARS AND OVER	3.2	3.6	..	2.0	3.0	3.2
AGE DEPENDENCY RATIO						
ECONOMIC DEPENDENCY RATIO	0.9	1.0	..	0.9	1.0	0.9
FAMILY PLANNING ACCEPTORS (CUMULATIVE, THOU)	..	10.9	1281.0	..	14.2	222.2
USERS (% OF MARRIED WOMEN)	..	2.0	..	..	..	8.0
EMPLOYMENT						
TOTAL LABOR FORCE (THOUSAND)	2700.0	3100.0	..	2900.0	1900.0	2900.0
LABOR FORCE IN AGRICULTURE (%)	51.0	54.0	..	73.0	54.0	43.0
UNEMPLOYED (% OF LABOR FORCE)	3.0	5.0	..	..	..	6.0
INCOME DISTRIBUTION						
% OF PRIVATE INCOME REC'D BY:						
HIGHEST 5% OF HOUSEHOLDS	..	..	..	..	43.0	28.3
HIGHEST 20% OF HOUSEHOLDS	..	..	..	..	72.0	56.0
LOWEST 20% OF HOUSEHOLDS	..	..	..	..	1.9	3.5
LOWEST 40% OF HOUSEHOLDS	..	..	..	..	5.2	11.2
DISTRIBUTION OF LAND OWNERSHIP						
% OWNED BY TOP 10% OF OWNERS	..	..	..	..	..	..
% OWNED BY SMALLEST 10% OWNERS	..	..	..	..	..	..
HEALTH AND NUTRITION						
POPULATION PER PHYSICIAN	..	12950.0	12390.0	14780.0	2930.0	..
POPULATION PER NURSING PERSON	2710.0	1070.0	1050.0	4780.0	8630.0	1080.0
POPULATION PER HOSPITAL BED	1050.0	760.0	780.0	640.0	430.0	270.0
PER CAPITA SUPPLY OF -						
CALORIES (% OF REQUIREMENTS)	89.0	96.0	101.0	94.0	89.0	93.0
PROTEIN (GRAMS PER DAY)	45.0	46.0	49.0	41.0	49.0	49.0
- OF WHICH ANIMAL AND PULSE	..	10.0	..	12.0	22.0	20.0
DEATH RATE (/THOU) AGES 1-4	..	..	..	..	13.0	5.5
EDUCATION						
ADJUSTED ENROLLMENT RATIO						
PRIMARY SCHOOL	59.0	58.0	56.0	55.0	95.0	89.0
SECONDARY SCHOOL	2.0	9.0	..	4.0	26.0	34.0
YEARS OF SCHOOLING PROVIDED (FIRST AND SECOND LEVEL)	15.0	15.0	15.0	10.0	12.0	13.0
VOCATIONAL ENROLLMENT (% OF SECONDARY)	13.0	23.0	15.0	40.0	29.0	3.0
ADULT LITERACY RATE (%)	..	25.0	..	..	68.0	77.0
HOUSING						
PERSONS PER ROOM (AVERAGE)	..	..	..	..	..	2.3
OCCUPIED DWELLINGS WITHOUT PIPED WATER (%)	..	..	..	..	..	65.0
ACCESS TO ELECTRICITY (% OF ALL DWELLINGS)	..	..	..	..	..	43.0
RURAL DWELLINGS CONNECTED TO ELECTRICITY (%)	..	..	..	..	..	30.0
CONSUMPTION						
RADIO RECEIVERS (PER THOU POP)	17.0	78.0	85.0	12.0	279.0	41.0
PASSENGER CARS (PER THOU POP)	3.0	5.0	4.0	10.0	4.0	23.0
ELECTRICITY (KWH/YR PER CAP)	55.0	338.0	379.0	68.0	156.0	382.0
NEWSPRINT (KG/YR PER CAP)	0.6	0.4	0.6	0.02	2.3	4.0

SEE NOTES AND DEFINITIONS ON REVERSE

ECONOMIC DEVELOPMENT DATA
(Amounts in millions of U.S. dollars)

NATIONAL ACCOUNTS	Actual			Projected			1970-	1973 -	1975 -	1980 -	1973	1974	1975
	1973	1974	1975*	1976	1980	1985	1973	1975	1980	1985			
	3-Year Average at 1967-1969 Prices & Exchange Rates						Average An	Growth Rates			As Percent of GDY		
Gross Domestic Product	2129	2233	2258	2280	2659	3146	2.1	3.7	3.3	3.4	102.0	100.5	98.4
Gains from Terms of Trade (+)	-41	-11	36	52	-60	-114					-2.0	-1.5	1.6
Gross Domestic Income	2088	2222	2294	2332	2599	3033	1.1	4.0	2.5	3.1	100.0	100.0	100.0
Import (incl. NFS)	317	407	413	405	477	529	-7.1	14.3	2.9	2.1	15.2	18.3	18.0
Exports " (import capacity)	-396	-329	-392	-440	-426	-485	-0.4	-0.5	1.6	2.7	-19.0	-14.8	-17.1
Resource Gap	-80	78	21	-35	51	43					-3.8	3.5	-0.9
Consumption Expenditures	1798	1987	2062	2077	2323	2759	0.6	7.1	2.4	3.5	86.1	89.4	89.9
Investment " (incl. stocks)	211	314	254	221	327	317	-8.0	9.8	5.2	-0.6	10.1	14.1	11.1
Domestic Savings	290	236	232	255	276	273	4.2	-10.5	3.5	-0.2	13.9	10.6	10.1
National Savings	288	232	235	249	268	255	7.9	-9.6	2.6	-1.0	13.8	10.4	10.2
MERCHANDISE TRADE	Annual Data at Current Prices						As Percent of Total						
Imports													
Capital goods	92	179	188	173	336	..							
Intermediate goods (excl. fuels)	141	257	217	233	372	..							
Fuels and related materials	41	136	126	138	216	..							
of which: Petroleum	(41)	(136)	(126)	(138)	(216)	..							
Consumption goods	150	245	225	238	325	..							
Total Merch. Imports (cif)	425	817	755	782	1248	..	22	22	25	33	31	29	
Exports													
Primary products (excl. fuels)	544	631	738	885	1109	..	93	93	94	2	2	1	
Fuels and related materials	12	14	8	9	12	..	(2)	(2)	(1)	(2)	(2)	(1)	
of which: Petroleum	(12)	(14)	(8)	(9)	(12)	..	5	5	5	5	5	5	
Manufactured goods	29	34	39	47	84	..	100	100	100				
Total Merch. Exports (fob)	585	678	785	941	1205	..							
Tourism and Border Trade													
Merchandise Trade Indices	Average 1967-69 = 100												
Export Price Index	148	220	255	279	291	379							
Import Price Index	163	227	243	259	350	494							
Terms of Trade Index	91	97	105	108	83	77							
Exports Volume Index	-												
VALUE ADDED BY SECTOR	Annual Data at 1967-69 Prices and Exchange Rates						Average Annual Growth Rates			As Percent of Total			
Agriculture	891	955	945	954	1088	1258	3.0	2.9	2.9	45	46	45	
Industry and Mining	436	457	462	466	563	702	3.0	4.2	4.3	22	22	22	
Service	653	665	693	700	819	966	3.0	3.3	3.4	33	32	33	
Total	1980	2077	2100	2120	2473	2926	3.0	3.3	3.4	100	100	100	
PUBLIC FINANCE	1972/73	1973/74	1974/75 ^{1/}	1975/76 ^{2/}	1976/77 ^{3/}		1972/73-	1975/76-	As Percent of GDP				
(Central Government)							1974/75	1976/77					
Current Receipts	397	583	818	853	1084		44.0	27.0	15	16	16		
Current Expenditures	440	569	875	963	1104		41.0	14.6	16	17	17		
Budgetary Savings	-43	14	-57	-110	-20		-	-	-	-	-		
Other Public Sector	-	-	-	-	-		-	-	-	-	-		
Public Sector Investment	84	158	211	338	360		60.0	6.5	4	4	5		
CURRENT EXPENDITURE DETAILS						US \$ million							
As % Total Current Expend.	Actual	Prelim.	Est.	Proj.	DETAIL ON	At end 19 P and ER							
	1972/73	1973/74	1974/75	1975/76	PUBLIC SECTOR	First Plan	% of Total						
Education	17.9	17.4	18.1	..	INVESTMENT PROGRAM	(19 /	- 19 /)						
Other Social Services	7.0	12.2	11.0	..	Social Sectors	..	..				
Agriculture	6.5	4.0	4.8	..	Agriculture	..	..				
Other Economic Services	6.3	6.0	6.6	..	Industry and Mining	..	..				
Administration and Defense	30.2	31.4	26.8	..	Power	..	..				
Other	32.2	29.0	32.7	..	Transport and communications	..	..				
Total Current Expenditures	100.0	100.0	100.0	..	Other	..	..				
					Total Expenditures	..	..				
SELECTED INDICATORS	1965-	1973-	1975-	1980-	FINANCING								
(Calculated from 3-year averaged data)	1973	1975	1980	1985	Public Sector Savings	..	..				
Average ICOR	..	4.08	3.46	3.13	Program aid counterpart	..	..				
Import Elasticity	..	4.52	.87	.62	Foreign Project Aid	..	..				
Marginal Domestic Savings Rate	..	..	..	..	Total Financing	..	..				
Marginal National Savings Rate	..	-0.47	0.08	-0.03									
LABOR FORCE AND OUTPUT PER WORKER	Total Labor Force					Value Added Per Worker (1967-69 Prices & Exc. Rates)							
	In Millions	% of Total	1960-70	In U.S. Dollars		Percent of Average		1960-70					
	1960	1970	1970	Growth Rate	1960	1970	1969	1970	Growth Rate				
Agriculture	1.59	1.78	62	57	1.2	476	439	80	75	-0.8			
Industry	.38	.50	15	16	2.8	558	758	94	130	3.1			
Service	.59	.85	23	27	3.8	923	776	155	133	-1.7			
Total	2.56	3.13	100.0	100.0	2.0	595	582	100	100	-0.2			

. not applicable
 .. not available
 * estimates

- nil or negligible
 -- less than half the smallest unit shown

1/Provisional Accounting
 2/Revised Estimate
 3/Estimate

THE STATUS OF BANK GROUP OPERATIONS IN GHANA

A. STATEMENT OF BANK LOANS AND IDA CREDITS (As of January 31, 1977)

<u>Loan or Credit Number</u>	<u>Fiscal Year</u>	<u>Borrower</u>	<u>Purpose</u>	US\$ million: Amount (less cancel <u>lation, termination & refundings)</u>		
				<u>Bank</u>	<u>IDA</u> <u>2/</u>	<u>Undisbursed</u>
Two loans and four credits fully disbursed				53.0	21.9	
163-GH	1969	Republic of Ghana	Fisheries		1.3	0.5
205-GH	1970	Republic of Ghana	Cocoa Rehabilitation		8.5	2.3
354-GH	1972	Republic of Ghana	Sugar Rehabilitation		15.6	4.0
438-GH	1973	Republic of Ghana	First Highway		13.0	8.0
499-GH	1974	Republic of Ghana	Second Water Supply		10.4	5.6
500-GH	1974	Republic of Ghana	Livestock Development		2.0	1.6
531-GH	1975	Republic of Ghana	Oil Palm		13.6	12.7
594-GH	1975	Republic of Ghana	Second Highway		10.0	7.2
1122-GH	1975	Posts & Tele- communications Corporation	Telecommunications	23.0		22.7
1180-GH	1975	Republic of Ghana	National Invest- ment Bank	10.0		9.5
1181-GH	1975	Republic of Ghana	Ashanti Cocoa	14.0		13.5
1182-GH	1975	Republic of Ghana	Second Highway	18.0		18.0
1291-T-GH <u>1/</u>	1976	Republic of Ghana	Agricultural Development	21.0 <u>3/</u>		21.0
1298-GH <u>1/</u>	1976	Republic of Ghana	CIMAO	<u>3.5</u>		<u>3.5</u>
Total of which has been repaid				142.5 <u>15.5</u>	96.3 <u>1.0</u>	130.1 <u> </u>
Total now outstanding				127.0	95.3	
Amount sold of which has been repaid				0.4 <u>0.2</u>	<u>0.2</u>	
Total now held by Bank & IDA <u>2/</u>				126.8	95.3	
Total undisbursed				<u>88.2</u>	<u>41.9</u>	<u>130.1</u>

1/ Not yet effective
2/ Prior to exchange adjustments
3/ Interest subsidy fund (Third Window)

B. PROJECTS IN EXECUTION ^{1/}

Cr. No. 163 - Fisheries Project: US\$1.3 million
Credit of September 25, 1969
Effective Date: January 21, 1970
Closing Date: June 30, 1977

This project originally provided for: (a) the construction of forty purse seiners; (b) credits to fishermen for purchasing such vessels; (c) fishing harbor improvement and expansion studies, and (d) the improvement of the Ghana Industrial Holding Corporation's Boatyard Division. Following protracted problems over design and price, the number of boats was reduced from the original 40 to 10, and delivery of the boats has been completed. A combination of mechanical problems and poor catches by purse seine methods have resulted in lower income for sub-borrowers. In order to improve the trawling capacity reliability and reduce time spent under repair, measures are now being discussed to increase the engine power of the boats and the maintenance facilities of the GIHOC Boatyard, utilizing about US\$500,000 left in the project account. The original Closing Date of December 31, 1972 has been extended to June 30, 1977 to allow for consultant advice on the procurement of engines and boatyard equipment.

Cr. No. 205 - Cocoa Rehabilitation Project: US\$8.5 million
Credit of June 26, 1970
Effective Date: March 12, 1971
Closing Date: December 31, 1977

The project, principally involving the rehabilitation of 51,000 acres and replanting of 36,000 acres of cocoa experienced delays mainly due to poor weather conditions, poor farmer participation, limited availability of labor, and shortages of insecticides. Project performance last year was unsatisfactory with only 24 percent of the planting targets (7,000 acres) and 22 percent of the rehabilitation targets (10,000 acres) achieved. Only 62 percent of the original planting target and 35 percent of rehabilitation target have been achieved to date. The closing date has been extended to December 31, 1977.

^{1/} These notes are designed to inform the Executive Directors regarding the progress of projects in execution, and in particular to report any problems which are being encountered, and the action being taken to remedy them. They should be read in this sense, and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

Cr. No. 354 - Sugar Rehabilitation Project; US\$15.6 million
Credit of January 29, 1973
Effective Date: May 31, 1973
Closing Date: March 31, 1979

Although 1975-76 sugar production (12,100 tons) was lower than appraisal estimates, rehabilitation of factories and expansion of cane acreage at Asutsuare progressed steadily despite procurement difficulties. Estimated sugar production for 1976-77 is about 17,150 tons. Appraisal production estimates have been revised to take account of implementation delays and it is now expected that full development sugar output of 42,000 tons will be realized in 1980, two years behind schedule.

Cr. No. 438 - First Highway Project; US\$13 million
Credit of November 21, 1973
Effective Date: January 22, 1974
Closing Date: December 31, 1977

The project provides for the rehabilitation of 138 miles of trunk roads, preparation of a road maintenance program and feasibility studies to determine future road work requirements and procurement of traffic control and pavement survey equipment. Due to considerable difficulties in getting the major item, road rehabilitation, underway, the number of roads were reduced from the original project provision of 345 miles to the present 138 miles. Recent actions by the Government and its executing agency, the Ghana Highway Authority (GHA) have resulted in improvement in the overall progress of the work. The Government has agreed to cover all additional costs which were caused partly by higher standards of improvement and partly by inflation. Studies have been satisfactorily completed, a maintenance program is being implemented under the Second Highway project, and equipment acquisition is still in progress. It is likely that there will be a delay of two years in project completion over the appraisal estimate of June 1977.

Cr. No. 499 - Second Water Supply Project; US\$10.4 million
Credit of July 26, 1974
Effective Date: January 7, 1975
Closing Date: June 30, 1980

This project is a follow-up on the first Water Supply project financed under Credit 160-GH and consists of the construction of an earth dam at Weijsa; extension of the distribution system in the Accra/Tema area; extension of rural water supplies near Accra; and technical assistance and training. A delay in Credit Effectiveness was due mainly to the delayed conclusion of a loan agreement between the Government and CIDA which financed pumping stations and treatment work. The work is substantially behind schedule due to delays in procurement. For example, the procurement of ADB-financed large diameter pipes has been delayed more than a year, although it is now expected that the contract will be shortly awarded. The construction of the Weijsa dam is about 80 percent complete but some remaining critical

components may present difficult problems; there are presently under discussion with the Corporation. It is expected that the project will be completed in June 1980, one year after the appraisal estimate, and that there will be a substantial cost overrun.

Cr. No. 500 - Livestock Development Project; US\$2.0 million
Credit of July 26, 1974
Effective Date: May 14, 1975
Closing Date: June 30, 1981

Project management has been improved following the appointment of a permanent Managing Director of the Ghana Livestock Company, the approval of new ranch development plans and the best use of existing finance under the project. Because of unanticipated difficulties in acquiring necessary land, and cost overruns resulting from higher cattle prices due mainly to the Sahalian drought, the Executive Directors approved a revised project description in August 1976. The project now includes: (i) development of two commercial ranches for 4,000 head of cattle, (ii) credit for 20 private livestock producers, (iii) the preparation of a follow-up project, and training for ranch managers. Project costs are estimated at US\$2.3 million. Government has agreed to provide any additional foreign exchange, above and beyond that available in the Credit, to help complete the project. The market prospects for beef are very good and permit the project to be commercially viable on a substantially smaller scale than at appraisal.

Cr. No. 531 - Oil Palm Project; US\$13.6 million
Credit of March 5, 1975
Effective Date: June 30, 1976
Closing Date: December 31, 1983

The project became effective on June 30, 1976 after a two-year delay. Approximately 35,000 seedlings would be ready to plant 500 acres in May 1977. Land will be cleared mechanically to accelerate the planting program for completion by 1980; land-clearing machinery and initial vehicle and equipment have been ordered. The managing director, project manager, and financial controller have been appointed. Nursery and headquarters building sites have been cleared and a 2-1/2 mile road, which leads to the site, has been bulldozed and graded. Cost overruns are expected on buildings, oil mill civil works and equipment because of the long delay in implementation.

Ln. No. 1122 - Telecommunications Project; US\$23 million
Loan of June 10, 1975
Effective Date: January 23, 1976
Closing Date: December 31, 1979

Project components include the rehabilitation and expansion of telephone exchange equipment, improvement and expansion of long distance telephone facilities and expansion of telex services. Engineering consultants have been appointed and bids for equipment are being evaluated. Project is progressing according to schedule.

Ln. No. 1180 - National Investment Bank Project; US\$10 million
Loan of December 23, 1975
Effective Date: March 2, 1976
Closing Date: December 31, 1981

The project provides for a US\$10 million loan to the National Investment Bank to help finance industrial, tourism and agro-industrial development projects and to support small and medium scale private enterprises. Despite the high inflation and slow economic growth, NIB was able to maintain its operations at the 1974 level, i.e., total approvals of ₵21.3 million. Ninety loans were approved for ₵16 million in the industrial sector. Recovery of arrears is the major problem but the senior management is continuing its efforts to reduce the portfolio exposure to less than 40 percent.

Cr. No. 1181 - Ashanti Region Cocoa Project; US\$14 million
Loan of December 23, 1975
Effective Date: February 23, 1976
Closing Date: December 31, 1978

Project consists of replanting and maintaining during the three year project period 42,500 acres of hybrid cocoa in the Ashanti region. Credit and training will be provided to farmers; other project components are the provision of feeder road equipment, consultancy services for designing a survey of the cocoa sector and evaluating seed garden production. Field progress is on schedule though some difficulties have been experienced in finding active farmers. Project performance during 1975-76 was very satisfactory with 96 percent of the 6,000 acres planting targets achieved. Progress in designing the cocoa sector survey, appointing a seed garden consultant, completing a farmer input study, and formulating a cocoa pricing policy has been slow. The Government has obtained additional financing of US\$5.0 million from BADEA for this project.

Cr. No. 594 - Second Highway Project: US\$10 million Credit
US\$18 million Loan of December 23, 1975
Ln No. 1182 - Effective Date: March 30, 1976
Closing Date: December 31, 1980

The Loan/Credit became effective March 30, 1976, postponed from February 23, 1976, due to delay in Government's submission of Legal Opinion and Subsidiary Loan Agreement. The project is in support of the first 4-year phase of an 8-year road maintenance program plus rehabilitation of a short section of trunk road. The main elements are the procurement of road maintenance equipment and spare parts; assistance to the Ghana Highway Authority (GHA) in the management and planning of the maintenance program; and an onlending operation through the Ghana Bank of Housing and Construction (BHC), with related technical assistance to provide domestic contractors with foreign exchange to enable them to procure equipment and spare parts to carry

out Ghana Highway Authority maintenance projects; and funds for the rehabilitation of the Accra-Nsawam trunk road section. Orders have been placed for equipment and spare parts, part of the equipment has been received, and the contract for the Accra-Nsawam road has been awarded, following international competitive bidding. Screening of domestic contracts for sub-loans from BHC is under way.

Ln. No. 1291-T - Upper Region Agricultural Development Project; US\$21 million
Loan of June 28, 1976
Effective Date: Not yet effective
Closing Date: December 31, 1982

The project, the first Bank operation for integrated agricultural development in Ghana, would provide most of the 125,000 farm families living in the Upper Region with improved support services, farm inputs and physical infrastructure. Two principal objectives are to increase farm incomes via increase in agricultural production and to establish permanent farm support services. The investment period will be spread over five years, 1976/77 to 1980/81. Date of effectiveness has been extended to March 31, 1977 to allow time for recruitment of key personnel and the establishment of the Farmers Services Company.

Ln. No. 1298 - CIMAO - Regional Clinker Project; US\$3.5 million
Loan of June 28, 1976
Effective Date: Not yet effective
Closing Date: December 31, 1980

This is the first Bank regional operation involving the Republic of Ghana, the Republic of Togo, and the Republic of Ivory Coast. The main project consists of a clinker plant, with an annual production capacity of 1.2 million tons, to be located in Togo. The Bank has approved a loan of US\$60 million, of which US\$3.5 million is loaned to the Government of Ghana to acquire preferred shares in Ciments de l'Afrique de l'ouest (CIMAO), an entity which will own and operate the above project. Loans of US\$3.5 million each have been given to the Governments of Togo and Ivory Coast for the same purpose. Procurement of the industrial complex is proceeding satisfactorily. The main mechanical contract was signed in October 1976. Recruitment efforts have started. Date of effectiveness has been extended to May 31, 1977.

GHANA

ELECTRICITY CORPORATION OF GHANA (ECG)
THIRD EXPANSION PHASE

CREDIT, LOAN, AND PROJECT SUMMARY

- Borrower: Republic of Ghana for the Credit and Electricity Corporation of Ghana for the Loan
- Beneficiary: Electricity Corporation of Ghana
- Amount: Loan US\$9.0 million
Credit US\$9.0 million
- Terms: Loan: Payable over 20 years, including 4-1/2 years of grace, at an interest rate of 8.5 percent per annum, to the ECG.
- Credit: Standard IDA terms to the Government.
- Relending Terms: Part of the credit (US\$5.2 million) would be relent to ECG for 20 years, including 4-1/2 years of grace, at an interest rate of 8.5 percent per annum; the portion (US\$3.7 million) related to the rural scheme (Kumawu) will be paid to ECG as a grant and US\$100,000 will be retained by Government for a power sector study.
- Project Description: The main objectives of the proposed project are to help finance a further phase of ECG's development program, consisting mainly of expansion of sub-transmission and distribution facilities, and to improve the Corporation's operations and management. The project includes the following components:
- (a) Sub-transmission and Distribution Lines: About 230 circuit km of overhead and about 20 km of underground 33 kV lines; about 6 circuit km of 11 kV overhead lines with about 11 MVA of distribution transformers. About 32 km of low tension distribution lines.
 - (b) Substations: 11 new substations with about 150 MVA of transformer capacity; expansion of about 6 existing substations with about 60 MVA of additional transformer capacity.
 - (c) Materials and Vehicles: Equipment and material for rehabilitating the existing sub-transmission and distribution system; heavy, medium and light weight vehicles to replace and/or expand the existing fleet;

- (d) Consultants Services: About 105 man-months of engineering services at US\$4,400 per man-month to help execute the project and two man-years of assistance to help prepare a power sector study, at an estimated cost of US\$100,000.

Estimated Cost

	<u>Foreign</u> -----in millions	<u>Local</u> US\$-----	<u>Total</u> US\$-----	% of <u>Total</u>
1. 33 kV, 11 kV, and LV lines	6.7	3.8	10.5	39.6
2. 33/11 kV and distribution substations	3.6	1.3	4.9	18.6
3. Supply of materials	2.5	-	2.6	9.8
4. Supply of service vehicles	1.5	-	1.5	5.6
5. Engineering services	<u>.3</u>	<u>.2</u>	<u>.5</u>	<u>1.7</u>
6. Total Base Line Cost (in late 1975 prices)	<u>14.7</u>	<u>5.3</u>	<u>20.0</u>	<u>75.3</u>
7. Physical contingencies	.6	.2	.8	2.7
8. Price contingencies	<u>2.7</u>	<u>3.2</u>	<u>5.9</u>	<u>22.0</u>
9. Total Project Cost	18.0	8.7	26.7	100.0

Financing Plan:

	<u>Foreign</u> -----in million	<u>Local</u> US\$-----	<u>Total</u> US\$-----
Loan	9.0		
IBRD		-	18.0
Credit	9.0		
ECG	<u>-</u>	<u>8.7</u>	<u>8.7</u>
Total	18.0	8.7	26.7

Estimated Disbursement:

	-----US\$ millions-----	
<u>Year</u>	<u>Annual</u>	<u>Accumulated</u>
FY77	6.1	6.1
FY78	7.0	13.1
FY79	3.5	16.6
FY80	1.4	18.0

Procurement
Arrangements:

Retroactive financing totalling about US\$1.5 million (from January, 1976) for foreign exchange costs of contract expenditures and engineering consultant's services is recommended. Equipment, erection and supplies to be financed out of the proceeds of the proposed loan would be procured under international competitive bidding in accordance with the Bank's Guidelines, except for about US\$500,000 equivalent of sub-transmission and distribution equipment and materials which for standardization reasons would be procured from the suppliers of the equipment under the previous program, provided that the prices are reasonably in line with those obtained for similar items under international competitive bidding.

Consultant's
Services:

About 105 man-months of engineering services to assist ECG in preparation and analysis of bids, to supervise project execution and two man years to conduct a power sector study. The personnel cost of the engineering assistance is valued at about US\$464,000 at US\$4,400 per man-month, and about US\$100,000 for the power sector study.

Rate of Return:

The weighted average rate of return, using tariffs increased by 70 percent to reflect the estimated marginal cost of power in Ghana, is 14.2 percent.

Appraisal Report:

Report No. 1196-GH

Map:

Map No. IBRD 12230

SUPPLEMENTARY PROJECT DATA SHEET

Section I: Timetable of Key Events

- (a) Time taken to prepare project: 15 months (June 1974 - August 1975)
- (b) Agency which prepared project: ECG
- (c) Project first presented to Bank/IDA: November 1974
- (d) First Bank mission to review project: February 1975
- (e) Departure of Appraisal Mission: November 17, 1975
- (f) Completion of Negotiations: Negotiations: December 6 - 10, 1976.
- (g) Planned date of effectiveness: June 15, 1977.

Section II: Special Bank Implementation Actions

A mission was scheduled in January, 1977 to assist in initiating key implementation steps. The Bank resident mission in Ghana is also monitoring the implementation.

Section III: Special Conditions

- (a) Government to consult ECG on the economic/financial evaluation of any rural electrification projects (para. 21).
- (b) ECG to make surplus hydro power available to its industrial customers for steam production on an interruptible basis (para. 22).
- (c) ECG to eliminate special low tariffs for firm power to industrial users (para. 22).
- (d) Government to undertake a power sector study to establish a framework for future tariff policy. Results of the study to be presented for review by the Bank by June 30, 1978 (para. 23).
- (e) For expenditure by ECG on the Sefwi-Wiawso-Bibiani line, VRA should have issued a letter of intent for the construction of the 161 kV transmission line (para. 31).
- (f) ECG to appoint Engineering Department Manager and fill the two key positions in the accounting department by July 1, 1977 (para. 33).

- (g) ECG to formulate a staff development plan by January 1, 1977 and carry out a survey of staff training requirements and appoint a senior staff member in charge of training by July 1, 1977 (para. 33).
- (h) ECG to revalue its assets as of December 31, 1976 by June 30, 1977 and maintain them on a current basis thereafter (para. 37).
- (i) ECG to earn at least 8 percent annual rate of return on its revalued assets (para. 37).

