

Document of  
**The World Bank**

**FOR OFFICIAL USE ONLY**

*LN. 2486-MAI*

**Report No. P-3915-MAI**

**REPORT AND RECOMMENDATION  
OF THE PRESIDENT OF THE  
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
ON A  
PROPOSED LOAN  
IN AN AMOUNT EQUIVALENT TO US\$6.4 MILLION  
TO THE  
REPUBLIC OF MALAWI  
FOR A  
WOOD INDUSTRIES RESTRUCTURING PROJECT**

December 17, 1984

**This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.**

### CURRENCY EQUIVALENTS

Currency Units	=	Malawi Kwacha (MK) and Tambala
US\$1.00	=	MK 1.33
MK 1.00	=	US\$0.75

### WEIGHTS AND MEASURES

1 cubic foot (cu ft)	=	0.0283 cubic meters
1 cubic meter (m <sup>3</sup> )	=	35.3 cubic feet = 264 US gal
1 kilometer (km)	=	1,000 meters = 0.621 miles
1 hectare (ha)	=	10,000 square meters = 2.47 acres

### GLOSSARY OF ABBREVIATIONS

ADMARC	-	Agricultural Development and Marketing Corporation
FID	-	Forest Industries Division in the Ministry of Forestry and Natural Resources
GTZ	-	Agency for Technical Cooperation of the Federal Republic of West Germany
INDEBANK	-	Investment and Development Bank of Malawi
KfW	-	Kreditanstalt für Wiederaufbau
MDC	-	Malawi Development Corporation
NRDP	-	National Rural Development Program
ODA	-	British Overseas Development Administration
PPF	-	Project Preparation Facility
TPL	-	Timber Products (Malawi) Ltd.
VIPCOR	-	Viphya Pulp and Paper Corporation, Limited
WICO	-	Wood Industries Corporation

### FISCAL YEAR

April 1 - March 31

MALAWI

WOOD INDUSTRIES RESTRUCTURING PROJECT

LOAN AND PROJECT SUMMARY

Borrower: Republic of Malawi.

Beneficiary: Wood Industries Corporation (Malawi) Limited (WICO).

Amount: US\$6.4 million equivalent, including front-end fee.

Terms: Payable in 20 years, including 5 years of grace, with standard variable interest rate.

Relending Terms: US\$5.1 million equivalent onlent to WICO, payable in 10 years, including 4 years of grace, with interest rate at 12 percent, WICO to bear the foreign exchange risk.

Project Description: The project would assist Malawi in meeting its demand for wood products, managing and optimizing forest resources, increasing industrial productivity, encouraging privatization, and developing institutions in the sector. Specifically it would provide: (a) technical assistance to WICO to enable it to operate profitably as a private company, restructure its Mazamba and Dedza sawmills and rehabilitate its Zomba mill, purchase critical spares and equipment, establish training programs and carry out feasibility studies for new processing facilities, product development and quality control; and (b) technical assistance to the Government for developing alternative uses for forest resources, mainly the large Viphya Forest.

Benefits and Risks: The project will substantially increase output from WICO's mills, improve product quality, and lead to more efficient use of forestry resources, which in turn would generate significant long-term returns to the economy. It would also identify additional economically viable investments for Malawi's extensive wood resources. The project faces no special risks, although realization of the expected benefits will depend mainly on the pace of managerial improvements. The incremental economic and before-tax financial rates of return for the project as a whole (including the technical assistance costs) are 25 percent and 23 percent, respectively. The after-tax financial rate of return is 15 percent.

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

		<u>US\$ Million</u>		
		<u>Local</u>	<u>Foreign</u>	<u>Total</u>
<u>Estimated Cost:</u>	(a) Restructuring and Technical assistance to WICO	1.8	4.1	5.9
	(b) Technical assistance to Government	<u>0.1</u>	<u>1.0</u>	<u>1.1</u>
	Total Base Cost	1.9	5.1	7.0
	Physical Contingencies	0.1	0.5	0.6
	Price Contingencies	<u>0.2</u>	<u>0.8</u>	<u>1.0</u>
	Total Project Cost	2.2	6.4	8.6
	IBRD Front-End Fee (\$15,960)	-	<u>0.0</u>	<u>0.0</u>
	Total Financing Required	<u>2.2</u>	<u>6.4</u>	<u>8.6</u>

		<u>US\$ Million</u>		
		<u>Local</u>	<u>Foreign</u>	<u>Total</u>
<u>Financing Plan:</u>	WICO	2.1	-	2.1
	Government	0.1	-	0.1
	IBRD	-	<u>6.4</u>	<u>6.4</u>
	Total	<u>2.2</u>	<u>6.4</u>	<u>8.6</u>

Estimated Disbursements:

<u>Bank FY:</u>	<u>US\$ Million</u>					
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Annual	0.3	1.4	2.4	1.6	0.5	0.2
Cumulative	0.3	1.7	4.1	5.7	6.2	6.4

Economic Rate of Return: 25 percent.

Appraisal Report: No. 5063-MAI (December 12, 1984).

Map: IBRD 18115R.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT  
TO THE EXECUTIVE DIRECTORS  
ON A PROPOSED LOAN TO THE REPUBLIC OF MALAWI  
FOR A WOOD INDUSTRIES RESTRUCTURING PROJECT

1. I submit the following report and recommendation on a proposed loan to the Republic of Malawi for the equivalent of US\$6.4 million to help finance a Wood Industries Restructuring Project. The loan would have a term of 20 years, including 5 years of grace, with a variable interest rate. Of the loan, US\$5.1 million equivalent would be relent to the Wood Industries Corporation (WICO), formerly the Forest Industries Division of the Ministry of Forestry and Natural Resources (FID) for 10 years, including 4 years of grace, with interest at 12 percent per annum. WICO would bear the foreign exchange risk. In parallel, IFC is proposing an investment of US\$2.1 million equivalent in a wood processing plant at Chikangawa (Chikangawa Project).

PART I - THE ECONOMY

2. A report entitled "Malawi: Growth and Structural Change, A Basic Report" (Report No. 3082a-MAI) dated February 8, 1982, was circulated to the Executive Directors on March 9, 1982. Annexes to the report were distributed on June 26, 1981. Annex I contains the basic country data.

3. Malawi is a small (118,500 sq km), densely-populated (about 6.6 million people in 1983) landlocked country in southeastern Africa. Its main assets are moderately fertile soils, good water resources and a climate favorable to crop production. Unlike its neighbors, Malawi has no known substantial mineral resources.

4. Although Malawi has a GNP per capita of only US\$210 and has been identified by the United Nations as one of the world's poorest countries, its progress since independence in 1964, measured against its natural resources, has been significant. Up until 1979 there was mostly steady growth. In 1980 and 1981 major economic difficulties were encountered, but a recovery appears to have begun in 1982 and 1983. GDP at constant prices grew at an average annual rate of 6 percent between 1964 and 1979. During the same period, real growth of estate agriculture and manufacturing exceeded 10 percent per annum and export volume grew at 4.5 percent per annum. A steadily increasing investment rate (rising from 9 percent of GDP at independence to 33 percent in 1979) has been supported by heavy inflows of official and private external capital as well as by a significant increase in domestic savings (from virtually nil in 1964 to 14 percent of GDP in 1979).

5. Malawi's past development success has been due largely to the realistic and purposeful policies of the Government. Public investment has

been intended primarily to support private initiative in the directly productive sectors by providing infrastructure, public utilities and support services. The Government has emphasized smallholder agriculture, as about 90 percent of the population lives in the rural areas and depends on agriculture for its livelihood. The Government has thus undertaken a number of integrated rural development projects and, in the late 1970s, embarked on the National Rural Development Program (NRDP), an ambitious 20-year program for extending services to smallholders countrywide. The Government's decision to emphasize directly productive sectors and infrastructure has resulted in relatively slower development of social services. Over the past 10 years, 7 percent of the Government's development budget has been spent on health, education and community development, compared to 22 percent on natural resources and 39 percent on communication.

6. Malawi's economy is heavily dependent on three primary commodity exports (tobacco, tea, and sugar) and is highly vulnerable to international price fluctuations. Since 1974, there have been periodic balance of payments problems of increasing severity due primarily to (a) rapid escalation in import prices, particularly of fuel and intermediate and capital goods; (b) cyclical swings in export prices of tobacco, sugar and tea; and (c) significantly higher costs of transport for exports and imports owing to rising ocean freight charges, port congestion in Mozambique, and disruptions of overland transport.

7. While the Government successfully steered the economy through balance of payments crises in the past, the deterioration in the balance of payments since 1978 has been less manageable. For reasons mostly outside Malawi's control, the deficits in both the trade and non-factor services grew rapidly until 1980. Between 1977-80 Malawi's terms of trade fell by 40 percent. While export prices declined by 16 percent (due mainly to falling tea and tobacco prices), import prices rose by 39 percent, partly because of the steep increase in prices of petroleum products. The petroleum import bill more than doubled, raising its share in total imports from 8.5 percent in 1977 to more than 16 percent in 1983. In 1980 and 1981, agricultural production suffered from recurring drought, reducing export volumes and necessitating large imports of maize, a commodity in which Malawi had been self-sufficient during most of the 1970s. Finally, disruptions of the rail transport system through Mozambique have forced Malawi to use more costly alternative routes as principal means of transport for exports and imports. As a result of these developments Malawi's current account deficit deteriorated sharply. From an annual average of about 8-9 percent of GDP in the mid-1970s, it rose to 18 percent in 1978 and 23 percent in 1979 before falling to 19 percent in 1980, 12 percent in 1981, 8.3 percent in 1982 and 11.5 percent in 1983. Capital inflows did not cover current account deficits and foreign exchange reserves fell from the equivalent of over five months of imports to less than two months between 1977-83.

8. Malawi's fiscal position also seriously deteriorated. From independence through 1977/78, government expenditures and revenues expanded

roughly in line with the increases in GDP, and deficits rarely exceeded eight or nine percent of GDP. In the past four years, expenditure growth has outstripped the increase in revenues and the share of government deficits in GDP averaged 15.6 percent in 1978-81. The underlying cause of these deficits was the increase in government expenditure to around 35 percent of GDP compared to an average 26 percent for the previous six years. Increases in domestic borrowing, mainly from the monetary system, and in foreign borrowing, partly on commercial terms, were required to finance the rising budget deficits. Inflationary pressures grew and prices rose at an average rate of 13 percent per annum in the first four years of the 1980s, well above the average of 9 percent from 1973-79.

9. Because of the Government's limited ability to mobilize resources, the appreciable expansion of Malawi's development program over the past decade has been financed in large part by increased public capital inflows. The net contribution from foreign official sources to the financing of public investment increased from US\$17 million in FY68, to about US\$105 million in FY82, of which about US\$48 million were grants. However, borrowing on commercial terms accounted for about 50 percent of total borrowing from 1979-81.

10. The Government and the IMF agreed to a new standby program for SDR 22 million in August 1982. A first phase of a multi-year stabilization effort, the program aimed at reducing both the balance of payments current account deficit and the budgetary deficit. As part of the program, the Government devalued the kwacha against the SDR by 15 percent in April 1982. The other performance criteria involved phased ceilings on net domestic assets of the banking system and on net credit to the Government and a limit on government external commercial borrowing. The standby was implemented satisfactorily, and the Government and the IMF concluded a new multi-year program, and a three year Extended Fund Facility was approved in September 1983 and has been implemented successfully so far. As part of the Extended Fund Facility, the Government devalued the kwacha against the SDR by 12 percent in September 1983 and switched to a basket of currencies on January 1984.

11. These measures are complemented by a medium-term structural adjustment program on which the Government embarked in 1981. The program's principal objectives are to diversify Malawi's export base, encourage efficient import substitution, adjust income policies, improve the public sector's financial performance and strengthen economic planning and monitoring. The Bank's first structural adjustment loan for US\$45 million was made in June 1981. After initial difficulties, good progress was made in implementing the Government's adjustment program: additional funds were allocated to the agricultural sector, agricultural prices were adjusted, public utility tariffs increased and the budget for 1982-83 was trimmed, with sufficient resources provided for major development sectors. The second tranche was released in April 1982. However, during 1982 the country's efforts were set back by increased disruption of the traditional transport routes and continued depressed demand for Malawi's export products. Nevertheless, the country was able to hold its current account

deficit to 11.3 percent of GDP in 1983, reduce the budgetary deficit for FY1983 to 9 percent of GDP, and meet its IMF standby borrowing ceilings. GDP growth recovered to 2.6 percent, and 4.4 percent, respectively in 1982 and 1983. External grants and net capital inflow continued to fall and despite a rescheduling of its external debt, net asset transfers have fallen sharply since 1980. Malawi's economic performance and creditworthiness are expected to continue to improve in the medium term if the structural adjustment program is implemented successfully, the external transport and terms of trade conditions do not deteriorate further, and the fall in foreign asset flows is reversed.

12. In December 1983, a second structural adjustment operation was approved by the Board. The program supported by SAL II builds on the progress made under SAL I and strengthens areas not covered in the first program or where implementation was not completely satisfactory. Implementation of SAL II moved well in many facets such as the strengthening of agricultural marketing, setting agricultural prices, the price liberalization program, budgetary allocations, revenue measures and development of an estate credit project. After initial delays, the Government has now taken satisfactory steps in developing a rationalization plan for Press Holdings, projecting revenues and expenditures, and developing a three year investment program, and revising the 1984/85 development budget. The second tranche was released on November 21, 1984.

13. By the end of 1983, Malawi's external public debt outstanding and disbursed totalled US\$705 million. In late 1982, Malawi rescheduled both its official and commercial debts. Otherwise its debt servicing, including repayments to the IMF, would have amounted to over US\$130 million, equivalent to over 40 percent of exports of goods and services. This compares to a level of about 10 percent in the mid-1970s. A second year of rescheduling was agreed to in October of 1983, keeping the debt service ratio to 26.7 percent in 1983. Although the Government has indicated that it will not be asking for any further rescheduling, the debt service ratio is expected to remain at 25-30 percent over the next few years.

#### PART II - BANK GROUP OPERATIONS IN MALAWI

14. Over the past 18 years, Malawi has received 31 IDA credits and one Special Fund credit totalling about US\$414 million and seven Bank loans totalling US\$93 million, of which two were on third window terms. Of the Bank Group assistance, some US\$123 million (24 percent) was for agriculture, US\$108 million (21 percent) for education, US\$114 million (22 percent) for roads, US\$100 million (20 percent) for structural adjustment, US\$39 million (8 percent) for power, US\$11 million (2 percent) for water, for housing finance and the balance of US\$12.0 million (2 percent) for health, development finance and technical assistance. The first Bank loan to Malawi was made on third window terms in June 1976 and the first standard Bank loan in April 1977. The most recent operations were a US\$13.1 million equivalent credit, a US\$13.8 million equivalent Special

Fund credit and a US\$18.0 million loan for a fifth highways project; a US\$55.0 million equivalent credit for a second structural adjustment project and a US\$1.5 million equivalent credit for a related technical assistance project. In addition, a US\$15.0 million credit for an Urban Project was approved on November 27, 1984. IFC's investment in Malawi consists of a loan of US\$10.8 million for a textile mill, another of US\$9.9 million for a sugar mill, a US\$0.6 million equity investment in the Investment and Development Bank of Malawi (INDEBANK) and a US\$2.0 million loan to Malawi Motels Limited for tourism. A US\$300,000 equity investment and a loan of US\$1.9 million for the production of ethanol from molasses were approved in July 1980, and a US\$0.5 million equity subscription and US\$1.8 million loan investment in the Viphya Plywoods and Allied Industries United were approved in August 1984. A Summary Statement of Bank Group Operations is provided in Annex II.

### Bank Lending Strategy

15. During the next five years, Bank Group assistance to Malawi will continue to be designed to help Malawi restructure its economy, especially to help improve agricultural productivity, dealing with the transport problem in order to improve the balance of payments and strengthening the effectiveness and efficiency of government and other development institutions. A longer run but equally urgent need is to help Malawi develop its human resource potential by addressing the problems of population growth, health and education. The remainder of the 1980s are likely to be a difficult time for land-locked Malawi which will need to continue its adjustments which it began with its two structural adjustment programs in the early 1980s. Investment and savings levels will need to increase as a proportion of GDP, the current account and budgetary deficits will have to be further reduced, export promotion and diversification will need to go forward and recurrent expenditure levels in key development agencies will have to be raised if past investments are to be utilized fully. These measures should be complemented by policy reforms in agriculture and industry to further increase the production and industrial incentives. A third structural adjustment loan embodying these reforms is planned for FY1986. It will help the Government increase the efficiency in the productive sectors, better mobilize and manage resources and improve development administration and the capacity for policy formulation.

16. Experience to date in Malawi has demonstrated that a combination of appropriate policies and sufficient external assistance channelled into productive investments can generate sustained growth rate in per capita income. The Government's medium-term public investment program requires further support in agriculture, transportation, education, population/health and water supply as well as a second line of credit to INDEBANK to provide medium-term finance for diversification and agro-industrial investment. These Bank-financed investments will complement the Government's structural adjustment program providing the necessary technical, financial and institutional support to enable Malawi to further increase the productivity of the smallholder, maximize the effectiveness of its external transport routes (particularly the northern

route), rationalize and prioritize investments in the education and water sectors and address the single most pressing issue for Malawi's long-term future, the very high rate of population growth. All of these programs will be co-financed thereby helping Malawi to obtain some of the additional external financing it needs to reach its modest GDP growth targets.

17. The Bank Group's economic sector work will continue to build an analytical base for discussions with Government on the key development issues that it must address. The major points of focus will remain: how to increase productivity in the economy; how to improve the financial performance of the public sector; how to improve the management of the economy and how to slow the rate of population growth. In agriculture, we will conclude the study on diversification and the steps needed to help broaden the export base of the economy; we will study the whole question of land utilization and what can be done to improve the productivity of this scarce resource; and we will finance studies on livestock, smallholder irrigation and management and training in the Agriculture Ministry. We will bring together these studies on agriculture in a sector memorandum in FY87. In the transport sector, we will complete the current study on external transport this year and also carry out an updating of the situation in this critical sector in FY87. In the social sectors, we will complete this year a study of the dynamics of population growth, its implications of the economy and the recommended development assistance strategy for the sector. In education, we will carry out over two years an indepth study of the training needs in the economy with special emphasis on the agriculture, health and transport sectors. These studies will provide the basis for mobilizing external assistance.

18. During the next three years we will complete two Country Economic Memoranda and a special study on the institutional aspects of development. The CEM, which is now under preparation, will focus on the medium-term resource needs and availabilities including recurrent cost requirements. The CEM planned for FY1987 will update our knowledge of the economy and the implementation of the SALs. The special economic study will look at the shortcomings in the Government's institutions and bureaucratic system which have led to some of the structural weaknesses in the economy. This study is expected to be finished in FY1986.

#### External Debt

19. The Bank Group's share of Malawi's external debt (disbursed and outstanding) at the end of 1982 was about 36 percent (IBRD: 11 percent, IDA: 25 percent), and its share in debt service was about nine percent. Because Malawi is one of the least developed countries, many other donors give aid on grant terms. Other major donors have been the United Kingdom, the Federal Republic of Germany, the European Economic Community and the African Development Bank.

#### Disbursements

20. Disbursements of Bank Group loans and credits in Malawi generally have kept close to schedule and compare favorably with other countries in

the region and even on a Bank-wide basis. During the period FY80-83, the disbursement rate on loans and credits to Malawi (excluding the effect of non-project lending) averaged about 28 percent per annum, significantly higher than the Eastern Africa Regional average of 19 percent and the Bank-wide average of about 21 percent.

### Project Implementation

21. Overall, implementation of Bank projects continues to be good. However, the third NRDP project has recently been classified as a problem project--the first ever in Malawi--due to inadequate budget provision, fertilizer shortage and lack of marketing and input infrastructure. The Government has agreed to reassess its FY84 development budget so that it can allocate sufficient budgetary resources for the project, to commence construction of marketing and input facilities and to ensure timely delivery of fertilizer. With these corrective actions, the project is expected to regain lost momentum.

## PART III - THE INDUSTRIAL SECTOR, FORESTRY AND WOOD PROCESSING

### The Industrial Sector

22. Malawi's industrial sector is relatively important, accounting for around 17 percent of GDP in 1982, and growth has averaged more than 10 percent a year since independence in 1964. The leading manufacturing industries in Malawi are food processing (mainly sugar), beverage production (26 percent of manufacturing), tobacco processing (15 percent), building materials (12 percent), and textiles, footwear and clothing (15 percent). Tea processing and other export industries account for another 18 percent of total manufacturing sales. The manufacturing subsector is dominated by three major holding companies: the Agricultural Development and Marketing Corporation (ADMARC), the Malawi Development Corporation (MDC), and Press (Holdings) Limited and a development bank: INDEBANK. Foreign firms are major partners in beer, textile and vegetable oil production. Small enterprises play an important role in such activities as baking, garments and furniture.

23. Malawi's outward-looking policy has been successfully complemented by a market-oriented economy in which the private sector is the primary engine for growth. Relatively low tariffs and judicious use of quantitative import restrictions have discouraged inefficient import-substitution. The Government's wage-control policy has helped to keep exports competitive and to expand employment. In particular, this policy has encouraged a relatively high level of labor-intensity in manufacturing, the 40,000 Malawians employed in the sector representing about 12-13 percent of the wage-earning labor force. Industrial management in Malawi is generally good, and considerable attention is paid to maintenance.

24. From independence through the late 1970s, manufacturing activity in Malawi was buoyant. Starting from a very low level, its vigorous growth, which averaged over 10 percent per year during 1970-78, or twice the rate of GDP growth, raised the sector's GDP share to around 12 percent. Initially, food, beverages, and the processing of tea and tobacco crops accounted for the bulk of manufacturing operations, but over the years the range of goods produced expanded to include textiles, clothing, footwear, pharmaceuticals, soap, packaging materials, and wood and metal products. After a slow-down during 1978-82, when growth of output averaged just over one percent per year, manufacturing value added grew by more than 15 percent in 1983, the lead coming from agricultural processing and food and beverages.

25. The potential industrial use of coal deposits in the North of Malawi and relatively large bauxite ore bodies in the Mulanje area merit further investigation, but prospects are not very promising because these products, given their low value per unit volume, are generally only exploitable in large operations. Forests and some agricultural products are in practice the only resources available for industrial development in the near future. The Government and the Bank have discussed a relatively large project to manufacture fertilizer (120-140 tons daily of ammonium nitrate) but the Bank does not consider it economically justifiable at present. An IFC-assisted project for the manufacture of ethanol from molasses is underway (para. 14).

#### Forestry: Regional Imbalances and Reforestation Policy

26. Fuelwood. Currently, Malawi consumes 8.8 million m<sup>3</sup> annually of wood. Around 40 percent of the land area (about 3.7 million ha) is forested. Wood is not only the main household fuel but also supplies traditional building poles for 90 percent of the population and is the primary fuel for tobacco processing, tea curing and brick making. This demand for wood is met from a variety of sources, by far the largest of which consists of indigenous forests on natural wood lands, for which wood is generally removed free, or at a nominal charge, and without restriction by the rural population for domestic and agricultural use. Other sources of fuelwood, such as managed forest reserves on government and private plantations, supplement the supplies from natural wood land, but aggregate consumption from all of these sources still exceeds the level of sustainable yield on a national basis by around 50 percent. The difference is met from the continuing diminution of Malawi's natural forest cover, which not only represents a fuelwood loss to future generations but precipitates serious environmental damage in the process, i.e., erosion which has compounding effects on future land productivity.

27. However, these national figures conceal important regional variations in the pattern of fuelwood supply and demand. A very serious imbalance exists in the densely populated south between the rate of forest production and exploitation, with the demand for fuelwood and timber outstripping regrowth of wood resources by a substantial margin. However, the continued availability of accessible unprotected forests leads to

untrammelled scavenging, which keeps fuelwood and charcoal prices low and provides insufficient economic incentives for landholders to replant trees on a systematic basis. The relative sparsely populated and less developed northern region has an excess supply of fuelwood relative to the effective regional demand. Accordingly, woodfuel price differentials are growing and are expected to become much sharper within the decade as absolute scarcity is experienced in the heavily populated central and southern regions with rapidly depleting wood stocks.

28. Partly in response to the emerging fuelwood crisis and as a result of the policy initiatives proposed by the Bank, the Government is tackling the fuelwood problem with a three pronged strategy to increase fuelwood supply. The first aims at building up long-term supply by providing fuelwood seedlings for sale nationally to the public, accompanied by a complementary program of extension services to enable them to grow their own supplies of wood. The second involves an intensive afforestation program by the Government in the areas of localized wood shortages and high population density. The third is to improve the management of the natural woodlands by the District Councils. The first two aspects of this strategy (seedling production and reforestation) are being addressed with the help of the IDA assisted Wood Energy Project (NRDP II) which is establishing 12,900 ha. of fuelwood plantations and 88 nurseries. The management of natural woodlands will be a major focus of the proposed second Wood Energy Project which the Government is currently preparing.

29. While the main thrust of the Government's strategy to tackle the fuelwood problem has largely been comprised of measures to increase the supply of the resource, some headway has been made on the demand side as well, particularly with regard to more efficient use of fuelwood by the tobacco industry. Under the IDA financial Second Technical Assistance Project, the Tobacco Research Association is carrying out the first phase of a program which could lead to a 40 percent savings in fuelwood consumption by the tobacco industry.

30. While the direction of the strategy is clear and reflects substantial agreement between the Bank and the Government, two difficult issues remain, i.e., (a) to what extent subsidized tree-planting programs are justified in the face of low market prices on the one hand and substantial excess supplies in remote, high-transport cost locations on the other; and (b) how Government revenues from wood utilization can be raised to allow substantial cost recovery for forest management and development. Neither of these policy issues is amenable to easy solution. However, the Bank/UNDP Energy Assessment Report and the more recent Forestry Sub-Sector Study have made a series of practical recommendations on both accounts for which the Technical Assistance II and Wood Energy II Projects are providing support. Results of this work will contribute to the development of a medium-term strategy and investment plan which the Government is preparing. However, considerable Bank support will be required in helping the Government develop a strategic overview which would relate supply and demand on a regional basis. The proposed Wood Industries Restructuring Project will make a modest contribution to the underlying technical issues

related to fuelwood supply strategies through the component for the study of alternative wood uses. The proposed project does not compete with scarce fuelwood supplies. On the contrary, by stimulating tree planting for conversion to high-value lumber and by providing substantial quantities of waste wood, it creates additional potential fuelwood supplies.

### Wood Processing Industry

31. Although the Government is aware of and has recently developed a program to deal with the fuelwood problem, since the 1950s it has pursued a forestry development policy which has led to the establishment of about 73,000 ha of industrial plantations as follows: (a) Government and private plantations for sawnwood, plywood, and poles for transmission and telephone lines; (b) the Viphya Plateau plantations in the northern region planned for pulpwood; and (c) fuelwood plantings. In addition, there are about 20,700 ha of private commercial plantations and farmers' and other non-industrial woodlots. Seventy percent of the plantations are located in the northern region, mostly on the Viphya mountains in the least populated part of the country. The demand for industrial wood, including the projected increases, can be met by existing plantations beyond the turn of the century, but the geographical distribution of supplies does not match regional demands. The pole demand for housing and fencing is well catered for by plantations and farmer woodlots and, as current sale prices stimulate private tree planting, demand will be met fully over the next few years.

32. The Viphya plantation estate of some 50,000 ha of fast growing pine was begun in the mid-1960s with technical and financial assistance from the British Overseas Development Administration (ODA). Its original purpose was to provide raw material to a mill to produce pulp for export, but an economically acceptable project could not be developed because of the difficulty of achieving economy of scale, the high capital and transportation costs and the slackening of international demand for paper. Alternative uses for the wood, which grows in an area of more than 600 km from the potential major market, have been difficult to find. Only 7 percent of the potential wood yield in Viphya will be used by the existing sawmill at Mazamba and at Chikangawa under the project recently approved by the IFC and the German Development Bank. As part of this project, commercially oriented tests on alternative use of forest resources, such as production of charcoal, pine resins and turpentine, if successful, would lead to eventual better utilization of Viphya's resources and alleviation of the fuelwood scarcity in the South (para. 27). Eventually, up to one third of Viphya's resources could be used provided a low-cost paper mill is established following feasibility studies now under way.

### Institutions

33. Sector. All plantations, except for several small private ones, are owned by the state through the Forestry Department in the Ministry of Forestry and Natural Resources, which also has overall responsibility for

forestry development, protection, conservation and utilization. The Department is headed by the Chief Forestry Officer who oversees the work of four divisions: (a) Management of Timber Plantations and Protected Forest Reserves; (b) Management Service, responsible for education, research and technical services; (c) Viphya Plantations; and (d) the Wood Energy Division, responsible for present and future fuelwood plantings. To enhance private participation in wood industries and to facilitate the expansion of the sub-sector under the proposed project, a fifth division of the Forestry Department, namely, Forest Industries (FID), has been converted in April 1984 into an autonomous private company: the Wood Industries Corporation (Malawi) Limited (WICO).

34. The decision to convert FID was officially approved by Presidential Directive on April 16, 1984. The new WICO was registered under the Malawian Companies Act as a private corporation with limited liability in June 1984 and started operations on July 1. The Board comprises five members, among whom the Principal Secretary of the Ministry of Forestry and Natural Resources is chairman. Other government nominated members are the Deputy Secretary of the Treasury, the Chief Economist of the Office of the President and Cabinet, and the Chief Forestry Officer. In addition, there is a representative of the private sector. Should ADMARC, INDEBANK or MDC (para. 22) acquire an ownership interest, the Board would probably expand to accommodate nominees from those entities. The General Manager of WICO will be the Chief Executive Officer. WICO's operating facilities at the date of transfer consisted of the sawmills at Blantyre, Zomba, Dedza and Mazamba (para. 35) and depots at eight locations. A technical committee for timber products -- with participation by the main producers and users -- has been proposed by WICO and is expected to be established in the near future. The financial position of WICO is presented in paras. 75 to 79.

#### Wood Processing Facilities

35. Primary Industry: The most important industrial activity utilizing forest resources in Malawi is sawmilling. Eight sawmills are now in operation, 5 of which account for 90 percent of the total production of about 38,000 cubic meters (m<sup>3</sup>). Four (Mazamba, Dedza, Zomba and Blantyre) are operated by WICO (para. 34) and the fifth and largest, also in Blantyre, belongs to Timber Products (Malawi) Ltd. (TPL), a subsidiary of the UK Imperial Group Ltd., which operates another plant in Blantyre making plywood and flush doors. The Blantyre and Zomba sawmills are obsolete and ill-located. The Mazamba sawmill was designed mainly to process thinnings for future construction work in the area and is inadequate for handling and processing lumber of the size and quality now needed. WICO's Blantyre mill has a separate furniture and box making unit as well as a treatment plant for poles. These activities have expanded substantially in recent years and now account for over 40 percent of the Blantyre mill's revenues. The Dedza sawmill, though relatively new, is handicapped mainly by insufficient drying capacity and the lack of mature sawlogs. Conversion efficiencies (i.e. the volume of sawn wood obtained from a given volume of logs) at the mills have fallen steadily in recent years due to aging facilities and

equipment, deficient log supply, inadequate or non-existent log sorting and debarking facilities to improve the quality of the feed to the sawmilling operations. Conversion averaged 50 percent in 1980 but had fallen to 44 percent in 1984. The Dedza mill has fallen to below 40 percent, while the Zomba and Blantyre mills, which had experienced efficiencies of up to 60 percent in the mid- to late-1970s, are now running at about 46 percent. The Mazamba mill has been struggling to reach the 45 percent level and is currently running below that rate. The TPL mill operates efficiently but has difficulties in obtaining log supplies due to depletion of indigenous forests and the limited yield of the company's own eucalyptus plantations.

36. The main users of timber are dissatisfied with the present quality of sawn softwood because of poor grading, insufficient or non-uniform drying, inadequate treatment, and scarcity of larger cross sections and longer lengths needed for construction and lack of joinery/furniture grade timber. Eucalyptus sawn wood is used mainly for boxes and tea chests and indigenous species for furniture where no grading is applied.

37. Future Production. Overall, significant increases in production by the mills are feasible with modifications and improvements in timber supply. The Mazamba mill is not expected to produce more than 5,000 m<sup>3</sup>/year in the near future because of design and log supply deficiencies. However, with substantial improvements in design, log supply and technical management, this mill is expected to reach an output of at least 10,000 m<sup>3</sup>/year by the mid-1990s. The Dedza mill's capacity could be increased to 20,000 m<sup>3</sup>/year; with substantial upgrading and better log supply, its output is expected to reach 16,000 m<sup>3</sup> in the late 1990s. It is assumed the Zomba mill will stop operating in the mid-1990s. The WICO's Blantyre mill is likely to stop operating by 1990, although the associated furniture, pallet and pole making activities will continue and expand. The purchase of logs for the TPL mill from the Forestry Department will allow the mill to maintain output (possibly increasing it to 20,000 m<sup>3</sup> annually by 1990) with the product mix gradually shifting from hardwoods to a higher share of softwood. Output from TPL's plywood and blockwood mill is estimated to be maintained at about 5,000 m<sup>3</sup> annually. The increased output from the existing mills, combined with the projected output from the Chikangawa project, should give the country a relatively balanced supply/demand situation for mechanical wood products through 1990.

38. Secondary Industries. Most sawmills are integrated to some degree with further conversion operations. The Dedza sawmill makes some furniture and also mouldings, woodwool/cement boards and sawdust pellets. The Blantyre mill has a separate unit to manufacture furniture and also produces pallets, boxes, crates, etc. These conversion activities are not, however, strongly promoted. TPL makes tea chests, tobacco cases, boxes and doors using its own plywood and sawnwood. In addition, there are 10 firms specialized in joinery and furniture production (of which three employ more than 50 people) and many artisans or cottage operations, whose output is under-reported.

## Consumption

39. Consumption of sawnwood grew at an average rate of 6.7 percent annually from 1968 to 1975 when it reached 49,400 m<sup>3</sup>. After a series of fluctuations, consumption declined sharply during the 1980s to about 40,900 m<sup>3</sup> in 1982 due to the world-wide recession and the Government's measures to curb inflation and public investment expenditures. More than half of the demand is for softwood, and this share is increasing. Sixty-one percent of the sawn softwood is used in construction and 27 percent in packaging, whereas 55 percent of the sawn hardwood is used in packaging and 32 percent in construction. Demand is projected to increase by four percent annually between 1982 and 1995, reaching a level of 68,000 m<sup>3</sup> in 1995. The IFC financed Chikangawa project, together with the increased output under the proposed IBRD project, would substantially equate supply and demand until the end of the decade. The growth of demand in the South (including Blantyre) is expected to be lower than in the other regions, because of previous high growth in the South, but the South will remain the major consuming area. Production from Chikangawa and Mazamba will initially serve the Central and Southern regions, but by 1995 the North is expected to consume about half of Viphya's sawnwood output. It is expected that exports to neighboring countries would absorb any surpluses.

40. Policy Issues. The major policy issues confronting the wood industries sub-sector can be summarized separately: (a) the pricing of sawnwood products; (b) privatization of wood processing industries; (c) improving the capacity utilization and management of the existing mills; (d) developing viable alternative commercial/industrial uses for the industrial wood resources; and on a broader sectoral basis; and (e) strengthening the institutional framework for policy analysis and investment programming. On all of these issues there is general agreement between the Government and the Bank.

41. Pricing. In the past, prices of wood products, i.e., sawn lumber, poles, etc., were influenced strongly by the Government's dominant position in the market and its control of the raw material resources. Nearly half of sawnwood has until now been produced by the Ministry of Forestry and Natural Resource mills at artificially low prices. In July 1983, largely through Bank and German Government efforts, the Government raised prices substantially and then, in December 1983, decontrolled wood product prices as part of the SAL II pricing reform agreement (para. 12). Assurances were obtained at negotiations that sawnwood and panelboard products would continue to be on the decontrolled list (Section 3.05 of the draft Loan Agreement).

42. Prices for domestic sawnwood in Malawi are less than one half of current border prices. Because of high customs duty,<sup>1/</sup> domestic prices of imported panel products, of qualities similar to those which would be

---

<sup>1/</sup> Customs duties and taxes on all imported goods average 15-25 percent, plus a 25 percent surcharge.

produced by the Chikangawa mill, are significantly higher than current import parity, whereas domestically produced panel products, largely of poorer quality for tea chests only, are considerably lower than import parity. Domestic prices are assumed to increase but to continue to be depressed in relation to border prices for imported products because of the well established marketing practices for domestic products and the likelihood of consumer resistance to higher prices. However, sufficient competition is expected to prevent a monopoly price situation from developing. By 1987, there would be three major companies producing sawnwood and two companies making panelboard while traders would be able to import products freely.

43. The northern region will have a surplus of large trees suitable for sawnwood and panelwood (and also a large volume of surplus pulpwood) even after the proposed Chikangawa mill is installed. Consequently, a stumpage fee <sup>2/</sup> of US\$3.75/m<sup>3</sup> to be maintained for five years has been agreed by the Government and IFC with regard to Viphya forest resources for the Chikangawa project. This corresponds to the estimated economic opportunity cost for timber in the Northern region. On the other hand, for the southern plantations, where demand for mature trees is considerably higher, current stumpage fees are running about US\$18-26/m<sup>3</sup>, which corresponds to the market value and/or replacement cost for such trees. During negotiations, assurances were obtained that the stumpage fees at Mazamba be maintained at the same level as for any other user of the Viphya forest resources (Section 3.01(f) of draft Loan Agreement). The Government and the Bank also discussed the level of stumpage fees for all other wood industries and agreed that the present government policy of setting the level at either market value and/or the replacement costs would be maintained.

44. Privatization of Wood Processing Industry. It is the Government's policy that private initiative should develop an efficient and profitable industry to provide the wood products required by the market. The recent conversion of the Forest Industries Division into the Wood Industries Corporation to be operated as a Government-owned commercial enterprise was an essential step in establishing a healthy forest industry. The Government will continue to maintain and manage the existing industrial wood resources expanding them as necessary to meet market demand. Harvesting of these forest resources would either be carried out directly by the Government or through concessions given to wood processing industries. Both the Government and the Bank hope that once the forest industries are operating on a profitable basis, private equity partners can be attracted.

---

<sup>2/</sup> Stumpage fee is a royalty on standing trees levied by the owner of the forest, in this case the Government, and in economic terms represents cost of producing (or replacing) one m<sup>3</sup> of their wood at harvesting. It also includes a 10-12 percent opportunity cost of capital.

45. Improving Capacity Utilization and Management of Existing Mills. The mills previously run by the Forest Industries Division in the Ministry of Forestry and Natural Resources were poorly managed and inefficiently run. There was a shortage of skilled professionals. Moreover, too little effort had been made to establish a diversified secondary wood industry such as furniture production, joineries or prefabricated houses, etc. Improving the capacity utilization and management of existing mills by providing needed technical and managerial support, training and critical spares and equipment is essential if the mills are to be operated profitably. In addition, the rehabilitation program is designed to establish a modern furniture factory at Blantyre and glue lamination operation to meet the demands of the secondary wood industry. These improvements will help to increase output from WICO's mills, improve product quality and lead to more efficient and rational use of forestry resources. By the end of the project period, WICO should be in a position to attract private equity partners and enable WICO to operate fully as a private commercial enterprise.

46. Developing Alternative Uses for Malawi's Wood Resources. The proposed project is the outcome of many years' efforts to find industrial uses for the large forest resources on the Viphya plateau, a process in which the Bank Group has been directly involved. When the large-scale export-oriented pulp and paper mill was found uneconomic because of high infrastructure and transport costs, attention immediately turned to developing wood processing industries for domestic consumption together with a program for technical assistance to aid rehabilitation of the Government-owned sawmilling sector and for studies of alternative uses of the forest resources. The German Government (GTZ) agreed to carry out a prefeasibility study to identify those investments which were likely to be viable economically in landlocked Malawi with its difficult transport routes. After two years of investigations, the GTZ identified a number of small-scale possibilities including charcoal, pine resins and turpentine and possibly a low-cost paper mill. Other proposals, including gasoline and fertilizer production, remain unproven. The proposed project will bring to project readiness those proposals which appear to be viable as well as investigate other less certain alternative industrial uses.

47. Strengthening the Institutional Framework for Policy Analysis. Coordination of energy policy and management is a particularly important problem in Malawi. The Government needs to develop policies, including pricing policies for wood fuels (firewood and charcoal) to improve the efficiency of supply, conversion and marketing of wood fuels and timber products, and to update and elaborate its projections of future supply and demand for wood and related biomass resources. To improve energy planning and coordination, the Government is strengthening the Energy Unit in the Economic Planning Division of the Office of the President and Cabinet. The Bank (through the Technical Assistance II Project) has agreed to finance an energy economist/planner, in-service and overseas training to build up the institutional capacity for policy analysis and investment planning and the development of a biomass fuel development strategy, including compilation of the required basic cost and resource data.

### Government's Strategy

48. The Government's strategy in the wood industries sub-sector is to privatize the industry, rationalize investments, develop primary and secondary wood processing and strengthen the institutions responsible for policy formulation and planning. The Wood Industries Restructuring Project provides a mechanism for the Government's achieving its objectives. The decontrol of wood prices and setting of reasonable stumpage fees will help promote economically viable projects. The improvement in the efficiency of existing forest industries by restructuring FID as a private corporation through WICO's creation will enable it to operate profitably in the market place. Some or all of WICO's mills can eventually become joint ventures with private investors. The feasibility studies will identify viable longer term investments to tap the potential of the Viphya forestry resource.

### Bank Group's Role and Strategy

49. Forestry and forest utilization are important elements in Malawi's economic growth. The Bank has been involved in the sub-sector for more than a decade and will continue to ensure the optimal development of the Government's scarce forest resources and achievement of its reforestation policy objective of creating an adequate supply of fuel wood.

50. From the earliest stages, the Government looked to possible Bank assistance for financing the infrastructure associated with the Viphya pulp mill project. In 1972, the Bank acted as an executing agency for a UNDP-financed prefeasibility study which concluded a pulpmill would be economic, and in 1974 made a US\$2.0 million credit for more detailed studies of costs, engineering, financing, etc. Early in 1980, the Government commissioned studies, financed by Kreditanstalt fur Wiederaufbau (KfW), by a firm of Finnish consultants, to investigate alternative uses for forestry resources. These and other consultant studies eventually led to the identification and joint appraisal with the KfW of the Mechanical Wood Products Project at Chikangwa. In addition, the Bank has recently completed a Forestry Sub-sector Study which helped the Government identify a forestry strategy and the policy actions and possible investments needed.

51. The Bank Group's strategy in the industrial sector is to assist existing enterprises to attain substantial improvement in performance and to encourage continued manufacturing expansion based on Malawi's agricultural, forestry and livestock resources through economically justifiable projects. The long-term prospects for such modernization and expansion are moderately good, and promising agro-industrial projects, with considerable export potential, have been identified with the assistance of Bank and other studies. The Bank's main lending in the sector in the medium-term is expected to be to INDEBANK because of its position as the main local source of long-term finance for enterprises in the sector. The proposed project is the Bank's first direct intervention in agro-processing, and has important long-term implications for the use of forest resources apart from the more immediate impact from mill

restructuring. Other improvements in the sector are being brought about through structural adjustment lending: reform of incomes, prices and incentives policies, and the promotion and diversification of exports. A Bank study of agricultural diversification has recently been completed (and is being reviewed by the Government). The Bank Group (including IFC) will continue to work actively with the Government, VIPCOR, WICO, and others, to identify and fund viable investment opportunities which are consistent with the Government's strategy towards the sub-sector.

#### PART IV - THE PROJECT

##### Project Background

52. Both the proposed Bank-financed project and the IFC-financed operation were developed over the past three years, in cooperation with the Government and KfW, to support the Government's efforts to develop northern Malawi and, in particular, identify industrial uses for the Viphya and other forest resources. Both projects were jointly appraised by the Bank and KfW in November 1983. When it became clear that there would be significant private sector involvement in the saw mill on the Viphya plateau, IFC was asked to undertake the wood industries complex at Chikangawa as a separate project. The Bank's appraisal was updated by IFC staff in April 1984 and the IFC project presented to the Board in August. The appraisal of the Bank-financed project, consisting of the restructuring, rehabilitation and technical assistance for the balance of the wood processing industry, was completed in May 1984, following the Government's decision to create WICO a year earlier than originally expected. Negotiations were held in Washington between November 12 and 16, 1984. The Malawi delegation was led by Mr. J.R. Phiri, Undersecretary, Ministry of Finance. Supplementary project data are provided in Annex III.

##### The IFC-Assisted Chikangawa Project

53. In parallel with this project, IFC is investing US\$2.3 million equivalent in a wood processing plant at Chikangawa (IFC Appraisal Report, IFC/R84, dated July 26, 1984). The Chikangawa project has a capacity of 6,500 m<sup>3</sup>/year of sawnwood and 15,000 m<sup>3</sup>/year of panelboard utilizing about 12 percent of the Viphya forest. It will be owned and operated by a joint venture between Viphya Pulp and Paper Corporation (VIPCOR) and a private technical/equity partner, Rai Plywoods (Kenya) Limited (the Partner). VIPCOR is a wholly-owned government corporation, established in 1973 to promote commercial development of the Viphya forest. The Partner has experience in operations similar to those required for the proposed Chikangawa mill as well as in marketing wood products. Financing required for the Chikangawa project is estimated to be US\$23.5 million equivalent and will be provided by KfW (US\$13.1 million equivalent), VIPCOR and the Partner (US\$5.2 million equivalent each), with IFC and INDEBANK providing the balance. KfW is making a grant to the Government that will be passed

on to the project in a combination of loan and quasi-equity. The European Investment Bank is providing ECU 4.0 million of equity funds for VIPCOR through a loan to the Government on concessional terms.

### Project Objectives

54. The Bank project would assist Malawi in meeting its demand for wood products by improving management of prime natural resources and increasing industrial productivity through restructuring and rehabilitating mills and strengthening their management. It would encourage privatization and strengthen institutional development in the sector and further the country's efforts to promote regional economic balance. In addition, by providing technical assistance to investigate alternative industrial uses for forest resources, the project would have important long-term implications for developing the sector.

### Project Description

55. The proposed project provides:

- (a) Technical assistance, management and equipment to the newly created Wood Industries Corporation (WICO) to help it:
  - (i) restructure its sawmills at Mazamba and Dedza and rehabilitate its Zomba mill;
  - (ii) purchase critical spares and equipment for all mills;
  - (iii) establish training programs for technical, management and maintenance staff;
  - (iv) carry out feasibility studies for new processing facilities, product development and quality improvements;
  - (v) operate as a private company, hiring experienced key staff and supporting consultancies.
- (b) Technical assistance to the Government for the development of alternative uses for its forest resources, mainly in the Viphya area.

### Detailed Features

56. Support to WICO: Restructuring of Mazamba and Dedza Mills and Rehabilitation of Zomba Mill. The Mazamba sawmill would be restructured through the addition of an improved log-handling system, improvements to the band-saw mill, purchase of log transport equipment and rehabilitation of existing vehicles. Once the initial phase of restructuring has been completed and the mill's production has reached at least 5,000 m<sup>3</sup>/year, kiln drying capacity would also be installed if justified by a detailed feasibility study carried out by the technical assistance consultants to

WICO to confirm that Mazamba can successfully reach an output of 10,000 m<sup>3</sup>/year in one shift operation.

57. The Dedza sawmill would be restructured through purchase of saw doctoring equipment, saws, modernization of the log-handling system, and purchase of log/timber transport equipment. In addition, the Dedza sawmill's drying facilities would be modified and their capacity increased following completion of a feasibility study by WICO's consultants that would assess Dedza's long-term potential. This study would be carried out possibly in conjunction with a study of glue laminating facilities (para. 61).

58. The Zomba mill's rehabilitation comprises saw doctoring, overhaul of critical equipment and purchase of spares to maintain the mill's productive capacity and prolong its life through 1992, when decisions regarding future use of the Zomba forest resources would have been reached.

59. Critical Spares and Equipment. The project would finance purchase of: (a) critical operating spares for all mills, including Blantyre, to ensure proper maintenance of existing equipment throughout their remaining useful lives; (b) equipment to establish a modern furniture and joinery plant at Blantyre, following a feasibility study to be carried out by WICO's consultants and technical assistance staff; and (c) equipment to install glue-laminating operations at the one or more mills to make better use of small sawnwood pieces and produce large size timber. These major investments would be decided following completion of feasibility studies (para. 61).

60. Establishment of Training Programs. Training programs would be established: (a) for mill maintenance personnel in saw doctoring techniques and other maintenance practices; (b) management traineeships for up to six key WICO local managerial staff, consisting of both academic training in relevant technical fields and job training for a brief period in suitable mills abroad before return to Malawi to complete on-the-job training under the respective technical assistance personnel; and (c) short-term training programs for other personnel, including plant visits to sawmills in other African countries, with a view to improving technical knowledge and gaining relevant additional experience in new techniques.

61. Feasibility Studies. Consultant services would be provided for feasibility studies of: (a) glue-laminating facilities; (b) furniture and joinery plant; (c) establishment of a major wood processing complex, using the Zomba resources; and (d) installation of an unused 5,000 m<sup>3</sup>/year sawmill at Mulanje, including a comparative study of the transportation system to be used.

62. Operation of WICO as a Private Company. The heads of WICO's main functional areas -- Operations, Marketing and Finance, as well as the maintenance chief -- would initially be expatriates, who would be recruited under the project. The position of Mazamba Mill Manager would also be filled by an experienced expatriate to be recruited under the project.

An Operations Manager acceptable to the Bank has been appointed, and recruitment of other key managerial staff is under way. The Government and the Bank agreed most funds available under the Technical Assistance I project, up to about US\$95,000 equivalent, would be used to provide an early start to the main technical assistance activities, including establishment of accounting and financial control systems and preparation of spare parts lists. An engineering consultant to procure critical spares for its mills has been recruited to ensure that essential maintenance of equipment is carried out expeditiously enabling the sawmills to continue to operate at current levels. Terms of reference for the technical assistance and consultant services have been agreed with WICO.

63. Promising Malawian professionals are being recruited and will be trained under the project to fill gradually the key managerial positions. Following the untimely death of the previous head of the Forestry Industries Department (FID), who functioned as WICO's first General Manager, the Government has appointed an experienced professional as the General Manager. Major activities such as marketing and cost accounting were neglected as FID functioned as a government department and the mills sold their output below market rates to those customers who came to the mill yards or to the closest timber depots to purchase their requirements. As part of its commercial reorientation, WICO will now appoint selling agents as a complement to its own direct marketing efforts and also seek to develop a modest export market for quality sawnwood in neighboring countries.

64. Technical Assistance to Government. To address the significant regional imbalance in the supply and demand of forest resources, a second component of the project would finance technical assistance for developing additional uses for forest resources, mainly in Viphya. The recently completed study by the Agency for Technical Cooperation of the Federal Republic of Germany (GTZ) and the Bank's Forestry Sub-sector Survey form the basis for this work. Management and technical consultant services and about US\$225,000 for demonstration equipment would be provided for: (a) installing industrial-sized demonstration ovens for the production of charcoal (and/or pelletized wood), and evaluating the technical and economic aspects of utilizing the wood fuel under actual commercial operating conditions (in particular, in the existing cement plant); (b) carrying out small commercially-oriented tests on the viability of extraction and distillation of pine resins and turpentine and substitution trials using producer gas from wood as fuel in vehicles powered by gasoline engines; (c) studying the viability of using producer gas from wood as a substitute for stationary (diesel) power generating plants; and (d) evaluating other possible uses of surplus wood.

#### Costs and Financing

65. The project's total costs, including contingencies, are estimated at US\$8.6 million, of which US\$6.4 million is foreign. The WICO component represents US\$7.24 million of total project costs. Taxes and duties on the

WICO component (US\$0.8 million equivalent) are estimated at an average rate of 21.6 percent of the c.i.f. value of imported equipment and spares. Costs for the government components do not include estimates for studies that may be required for other longer-range uses of surplus forest resources for which the Government may seek additional financing from bilateral agencies such as GTZ and ODA in the form of grants and concessionary credits. The WICO project component costs are based on studies carried out by FID, the Forest Industries Advisory Group for Africa, and Jaakko Poyry/GOPA (consultants) in conjunction with the development of the proposed Chikangawa project. They were updated with the help of WICO following a post-appraisal of the project in May 1984. A total of 134 man-months of technical assistance and 18 man-months for feasibility studies has been provided for WICO and 85 man-months of technical assistance to the Government. Physical contingencies have been estimated at 10 percent of the base cost estimates, which is considered adequate as no major construction/erection work is foreseen. Price contingencies for the foreign components have been taken at 3.5 percent in 1984, 8 percent in 1985, 9 percent in 1986-88 and 7.5 percent in 1989. Price contingencies for local costs have been calculated on the basis of expected increases of 12 percent in 1984, 11 percent in 1985 and 10 percent thereafter. The total contingencies on the WICO component amount to 26 percent of base costs, and to 30 percent on the Government component. The difference arises due to the procurement by WICO of its core restructuring equipment and spares during the early years of project implementation.

66. The proposed Bank loan of US\$6.4 million would have a term of 20 years, including 5 years of grace, with a variable interest rate. The Government would onlend US\$5.1 million (80 percent) to WICO for a term of 10 years, including four years of grace with a 12 percent interest rate which is positive in real terms. WICO would bear the foreign exchange risk. The conclusion of a subsidiary loan agreement between WICO and the Government is a condition of disbursement of the WICO component (draft Loan Agreement, Section 3.01(b) and Schedule 1, para 4). WICO's internal cash generation would finance the local costs of the WICO component (estimated at US\$0.6 million equivalent) and all the estimated taxes and duties on the project. The Government would finance the estimated local costs of the technical assistance program for development of alternative uses of surplus forest resources.

#### Project Implementation

67. WICO. The proposed project would be implemented over a period of about six years and is expected to be completed by June 30, 1989 for the WICO component and September 30, 1990 for the technical assistance to the Government. WICO would implement the restructuring program with the aid of the technical assistance team to be recruited under the project (para. 64). WICO would employ the services of an engineering consultant to assist in all phases of procurement particularly in the search for suitable manufacturers or other sources of spares and compatible equipment. Much of

this work would start through the funding from the Technical Assistance I Credit. The consultant would also assist in recruitment of individual technical assistance personnel. Implementation of the restructuring investments would proceed in a staged manner: WICO and its technical assistance team would first conduct a thorough review of the physical condition of the plant at each mill; and priorities for rehabilitation, restructuring, and main overhaul would then be assessed and set. Prior to undertaking any capital investments individually exceeding US\$300,000 equivalent, WICO would carry out a feasibility study with the aid of consultants and would review the results with the Bank. This was confirmed during negotiations. Terms of reference for the proposed feasibility studies would be agreed with the Bank, and consultants selected in accordance with Bank guidelines. In view of the importance to the success of the WICO restructuring program, WICO has already selected and appointed a Project Operations Manager whose qualifications and experience are deemed satisfactory by the Bank.

68. WICO would select suitably qualified and experienced personnel for management training under the project. The scope and content of the individual study-cum-training programs would be developed by the technical assistance personnel and WICO for each of the main functional areas. The management trainees would be initially sent overseas, but would, upon return to Malawi, work as counterparts to the individual technical assistance team members, with a view to taking over the functional responsibilities within six to twelve months. WICO may employ a short-term expert to review other company-wide training needs and develop appropriate programs. In order to monitor project progress and keep the overall schedule in control, WICO would prepare, with the aid of the technical assistance staff, a detailed master schedule of project implementation and submit to the Government and the Bank by September 30, 1985 for review and comments, and thereafter finalize and implement such schedule (draft Project Agreement, Section 2.01 (b)).

69. Technical Assistance to the Government. The program for studying additional uses of forest resources would be carried out by experienced consultants on terms of reference and conditions of employment acceptable to the Bank. Terms of reference for the various studies have already been developed. The Government would employ consultants whose qualifications, experience and conditions of employment are satisfactory to the Bank (draft Loan Agreement, Section 3.02). The Government has made the Forestry Department responsible for coordinating the technical assistance component. A project manager with broad experience in forest industries and energy uses will be appointed to be directly in charge. The program manager will report to a steering committee comprised of WICO, MDC, INDEBANK, VIPCOR and the Ministry of Finance. Appointment of a project manager whose qualifications and experience are acceptable to the Bank, and on terms of reference and conditions of employment satisfactory to the Bank (draft Loan Agreement, Section 3.01(d) and para. 4 of Schedule 1) is a condition of disbursement of the proposed loan allocated for the technical assistance component. The Forestry Department would prepare by September 30, 1985 and submit to the Government and the Bank for review and

comments, a master schedule of project activities and thereafter finalize and implement such schedule (draft Loan Agreement, Section 3.01(d)).

Procurement

70. Procurement arrangements are summarized in the following table:

<u>Project Element</u>	<u>Procurement Method</u> (US\$ '000)			<u>Total Cost a/</u>
	<u>Method of Procurement</u>			
	<u>ICB</u>	<u>Limited Internatl. Shopping</u>	<u>Consultant Services</u>	
<u>Equipment &amp; Spares</u>				
Proprietary Spares	-	300	-	300
	-	(225)	-	(225)
Other Spares	500	-	-	500
	(375)	-	-	(375)
Compatible Equipment	-	950	-	950
	-	(713)	90	(713)
Computer Hardware/Software	-	-	(80)	90
	-	-	-	(80)
Vehicles/Transport Equipment	450	-	-	450
	(338)	-	-	(338)
Major Capital Investments	2,078	-	-	-
	(1,546)	-	-	-
Total Equipment & Spares	3,028	1,259	90	4,368
	(2,259)	(938)	(80)	(3,277)
Σ	71	29	-	100
<u>Consultant Services/Technical Assistance</u>				
To WICO	-	-	2,049	2,049
	-	-	(1,823)	(1,823)
To Government	-	-	1,106	1,106
	-	-	(995)	(995)
	-	-	-	-
<u>Demonstration Hardware</u>				
	-	289	-	289
	-	(289)	-	(289)
Total Project a/	3,028	1,539	3,245	7,812
	(2,259)	(1,227)	(2,898)	(6,384)
Σ	35	20	45	100

a/ Excluding taxes, duties and front-end fee.

Note: Figures in parentheses represent the amounts to be financed out of the proposed Bank loan.

71. Consultant services and technical assistance would be procured following Bank guidelines, and all consultant contracts will be reviewed by the Bank prior to signing. Spares would be procured through limited international shopping, including original manufacturers. Replacement and upgrading equipment costing individually less than US\$300,000 equivalent would be procured through limited international shopping to ensure compatibility with existing equipment and technology. Vehicles and transport equipment would be procured through international competitive bidding through established local dealers representing major manufacturers, in order to ensure availability of service and spare parts. Major capital investments for which feasibility studies would be carried out, would be procured through international competitive bidding. Demonstration hardware would be procured through limited international shopping. Computer hardware and software would be procured locally through established dealers and manufacturers' representatives. Since all are imported, the local preference does not apply. All contracts and bid evaluations greater than US\$300,000 equivalent would be approved by the Bank prior to signing.

#### Disbursements

72. Disbursements would be for 100 percent of foreign expenditures and 70 percent of local expenditures for equipment and spares (including installation and erection) (US\$3.3 million); 100 percent of foreign expenditures for consultant services (US\$2.8 million); 100 percent of total expenditures for demonstration hardware (US\$0.3 million). Disbursements would be made against full documentation. A Special Account (Revolving Fund) would be opened by WICO to facilitate disbursements under Part A of the project of small contracts and payment of consultant monthly fees. The initial deposit into this account would be US\$300,000. Opening of the Special Account is a condition of disbursement of Part A of the project. The disbursement forecast is based on the standard profiles for industrial projects in East and West Africa regions.

#### Auditing and Reporting

73. All expenditures financed under the project would be audited by independent auditors acceptable to the Bank. Audited financial statements would be submitted to the Bank for review not later than three months after the close of the fiscal year (draft Loan Agreement, Section 4.02 (b)). A project completion report would be prepared by the Government and WICO and submitted to the Bank not later than six months after the loan's Closing Date (draft Loan Agreement, Section 3.04 (d)).

#### Environmental Impact

74. The project poses no environmental hazards. The sawmill operations are relatively pollution free. Solid wastes are burned for product drying, converted to briquette (fuel wood) or sold directly as fuel wood.

### WICO's Financial Position

75. The Government has decided that a debt-free opening balance sheet would be set up at the start of operations of the Wood Industries Corporation so that at project completion a debt/equity ratio of not greater than 60:40 would be reached (draft Project Agreement, Section 4.04 (a)). Agreements were also obtained that WICO shall not incur any additional debt prior to project completion without prior Bank approval (draft Project Agreement Section 4.03(a)); and that WICO would not declare or pay any dividend that would reduce the current ratio below 1.5 (draft Project Agreement, Section 4.03(b)). WICO's audited opening balance sheet would be submitted for Bank review and comment prior to disbursement of the portion of the proposed loan allocated to the WICO restructuring component (draft Loan Agreement, Schedule 1, para. 4). At negotiations, the Government and WICO reviewed with the Bank the proposed capital structure and debt projections on the basis of preliminary valuations and recorded in a memorandum of negotiations the principal aspects of the capital structure and its future evolution toward privatization.

76. The Government's intended final ownership structure for WICO is a 51/49 public/private split with the further possibility of selling all of the individual mills totally to the private sector and/or establishing new projects as joint ventures with private partners. All of WICO's equity capital would be initially held by the Government. It is likely that organizations such as ADMARC, INDEBANK or MDC would be invited to acquire a stake in the new corporation. This would facilitate the later sale of WICO's capital stock to private parties. WICO's draft Memorandum and Articles of Association do not preclude such divestiture and agreement has been obtained that neither the Government nor WICO would materially change or modify the Memorandum and Articles of Association of WICO without the Bank's prior consent (draft Loan Agreement, Section 5.01(c)).

77. FID's accounting systems are based on accrual accounting methods. However, frequent changes in accounting staff, and lack of cost accounting systems and procedures, have resulted in inadequate financial information and records for cost control and financial planning. Financial reporting from year to year has been inconsistent and in some years not fully allocated to mill operations resulting in overstatement of profitability. FID's financial statements do, nevertheless, provide some measure of the financial worth of the various operations, although they do not properly reflect the financial position and the true earnings capacity of the capital being employed. The detailed valuation exercise now underway is expected to set right this aspect of the FID's balance sheet, so that future total or partial divestiture or formation of joint ventures could be made on the basis of the fair market value of performing assets.

78. WICO's immediate need is for the establishment of reliable enterprise-oriented accounting and financial information and control systems to be set up not later than the end of the current financial year: March 31, 1985 (draft Project Agreement, Section 4.01). This requirement would be met as the work is already under way with the aid of an accounting

firm with terms of reference to design and set up the systems and train WICO staff. The services of the accounting firm were funded through the Technical Assistance I Credit. The accounting system to be set up would take into consideration a gradual computerization of the accounting and financial functions, as well as related aspects of inventory control, financial planning, cash flow forecasting, client records and budgeting. Under the Project, assistance (both hardware and software) for the introduction of simple management information systems would be provided. Coopers and Lybrand (Malawi), whose qualifications and experience are suitable to the Bank, have been appointed WICO's auditors. WICO's financial year runs from April 1 to March 31.

79. Projected financial performance analysis assumes that, with the introduction of a strong technical assistance program at WICO, particularly at Mazamba, and with repair and rehabilitation of existing equipment, as well as the restructuring efforts, the declining trends of the past few years will be rapidly arrested and that WICO operations will show a modest growth in 1984/85 and begin to improve substantially in subsequent years.

#### Benefits and Risks

80. The project's major benefits would be the significant increase in sawmill output and improvement in product quality, leading to more efficient management and use of invested resources, increasing industrial productivity and generating productive capital to the economy. Institutions will be strengthened, and a significant foundation laid for privatization of wood industries. The project would also investigate enhanced utilization of one of Malawi's most substantial resources — its forests. The incremental economic and before-tax financial rates of return for the project as a whole (including technical assistance costs) are 25 percent and 23 percent, respectively. The after-tax financial rate of return is 15 percent. Through the feasibility studies, the project would have an important impact on sector development.

81. The project faces no special risks, although realization of the expected benefits will depend mainly on the pace of managerial improvements. Should the expected managerial improvements take as much as three years longer to achieve than forecast, the sensitivity analysis on the rehabilitation programs indicates favorable economic and financial rates of return would still be achieved. The provision of technical assistance would facilitate these improvements.

#### PART V - LEGAL INSTRUMENTS AND AUTHORITY

82. The draft Loan Agreement between the Republic of Malawi and the Bank, the draft Project Agreement between WICO and the Bank, and the Report of the Committee provided for in Article III, Section 4 (iii) of the Articles of Agreement of the Bank are being distributed to the Executive Directors separately.

83. Special conditions of the loan are listed in Section III of Annex III. Special conditions of disbursement are: (a) for the WICO component: (i) the signature of a Subsidiary Loan Agreement between the Government and WICO, (ii) the opening of the Special Account, (iii) the submission of an audited opening balance sheet for WICO; and (b) for the Government component: the appointment of the Project Manager.

84. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATIONS

85. I recommend that the Executive Directors approve the proposed loan.

A.W. Clausen  
President

Attachments  
December 17, 1984  
Washington, D.C.

TABLE 3A

MALAWI MALAWI	- SOCIAL INDICATORS DATA SHEET				
	1960 <sup>d</sup>	1970 <sup>b</sup>	MOST RECENT ESTIMATE <sup>c</sup>	REFERENCE GROUPS (WEIGHTED AVERAGES) <sup>e</sup>	
LOW INCOME AFRICA SOUTH OF SAHARA				MIDDLE INCOME AFRICA S. OF SAHARA	
<b>AREA (THOUSAND SQ. KM)</b>					
TOTAL	118.5	118.5	118.5	.	.
AGRICULTURAL	37.9	39.5	41.6	.	.
<b>GDP PER CAPITA (US\$)</b>	50.0	70.0	210.0	249.1	1112.9
<b>ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF OIL EQUIVALENT)</b>	..	35.0	46.0	62.8	529.0
<b>POPULATION AND VITAL STATISTICS</b>					
POPULATION, MID-YEAR (THOUSANDS)	3419.0	4513.0	6452.0	.	.
URBAN POPULATION (% OF TOTAL)	6.4	6.4	9.6	19.2	29.7
<b>POPULATION PROJECTIONS</b>					
POPULATION IN YEAR 2000 (MILL)			11.7	.	.
STATIONARY POPULATION (MILL)			47.9	.	.
POPULATION MOMENTUM			1.9	.	.
<b>POPULATION DENSITY</b>					
PER SQ. KM.	28.9	38.1	52.7	32.5	55.8
PER SQ. KM. AGRIC. LAND	90.2	114.3	150.0	119.2	111.5
<b>POPULATION AGE STRUCTURE (%)</b>					
0-14 YRS	45.5	46.8	47.0	45.6	45.4
15-64 YRS	52.1	50.8	49.3	51.5	51.7
65 AND ABOVE	2.4	2.4	3.6	2.9	2.9
<b>POPULATION GROWTH RATE (%)</b>					
TOTAL	2.4	2.8	3.0	2.8	2.8
URBAN	4.5	6.6	7.0	6.2	5.2
<b>CRUDE BIRTH RATE (PER THOUS)</b>	56.1	56.1	56.2	48.6	47.0
<b>CRUDE DEATH RATE (PER THOUS)</b>	27.1	23.2	22.9	17.7	15.2
<b>GROSS REPRODUCTION RATE</b>	3.4	3.4	3.5	3.2	3.2
<b>FAMILY PLANNING</b>					
ACCEPTORS, ANNUAL (THOUS)	..	..	..	..	..
USERS (% OF MARRIED WOMEN)	..	..	..	..	..
<b>FOOD AND NUTRITION</b>					
INDEX OF FOOD PROD. PER CAPITA (1969-71=100)	90.0	91.0	99.0	85.8	91.6
<b>PER CAPITA SUPPLY OF</b>					
CALORIES (% OF REQUIREMENTS)	95.0	100.0	94.0	86.4	98.2
PROTEINS (GRAMS PER DAY)	65.0	72.0	65.0	49.9	56.7
OF WHICH ANIMAL AND PULSE	14.0	19.0	19.0 <sup>f</sup>	18.3	17.0
<b>CHILD (AGES 1-4) DEATH RATE</b>	58.0	42.0	29.0	23.8	18.7
<b>HEALTH</b>					
LIFE EXPECT. AT BIRTH (YEARS)	36.5	40.5	44.1	48.4	51.7
INFANT MORT. RATE (PER THOUS)	206.0	173.0	137.0	117.5	102.7
<b>ACCESS TO SAFE WATER (%POP)</b>					
TOTAL	..	..	33.0 <sup>g</sup>	21.8	35.6
URBAN	..	..	70.0 <sup>g</sup>	61.5	54.1
RURAL	..	..	29.0 <sup>g</sup>	14.2	27.3
<b>ACCESS TO EXCRETA DISPOSAL (% OF POPULATION)</b>					
TOTAL	..	..	..	32.0	..
URBAN	..	..	15.0 <sup>g</sup>	69.2	..
RURAL	..	..	..	24.8	..
<b>POPULATION PER PHYSICIAN</b>	35250.0	38430.0	40950.0 <sup>e</sup>	27477.8	11948.3
POP. PER NURSING PERSON	12940.0 <sup>ff</sup>	9050.0	3830.0 <sup>g</sup>	3396.2	2248.9
POP. PER HOSPITAL BED					
TOTAL	870.0	630.0	740.0 <sup>e</sup>	1089.0	986.9
URBAN	120.0 <sup>ff</sup>	160.0	80.0 <sup>g</sup>	395.2	368.7
RURAL	1310.0 <sup>ff</sup>	900.0	1480.0 <sup>g</sup>	3094.0	4012.1
<b>ADMISSIONS PER HOSPITAL BED</b>	..	32.1	39.0 <sup>e</sup>	..	..
<b>HOUSING</b>					
<b>AVERAGE SIZE OF HOUSEHOLD</b>					
TOTAL	..	..	..	..	..
URBAN	..	3.4 <sup>h</sup>	..	..	..
RURAL	..	5.0 <sup>h</sup>	..	..	..
<b>AVERAGE NO. OF PERSONS/ROOM</b>					
TOTAL	..	..	..	..	..
URBAN	..	1.7 <sup>h</sup>	..	..	..
RURAL	..	..	..	..	..
<b>ACCESS TO ELECT. (% OF DWELLINGS)</b>					
TOTAL	..	..	..	..	..
URBAN	..	16.0 <sup>h</sup>	..	..	..
RURAL	..	..	..	..	..

TABLE 3A

MALAWI MALAWI	- SOCIAL INDICATORS DATA SHEET				
	1960 <sup>/b</sup>	1970 <sup>/b</sup>	MOST RECENT ESTIMATE <sup>/b</sup>	REFERENCE GROUPS (WEIGHTED AVERAGES) <sup>/a</sup>	
LOW INCOME AFRIA SOUTH OF SAHARA				MIDDLE INCOME AFRICA S. OF SAHARA	
<b>EDUCATION</b>					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	..	36.0	62.0	69.2	91.0
MALE	..	45.0	73.0	78.8	90.5
FEMALE	..	26.0	51.0	57.6	73.6
SECONDARY: TOTAL	1.0	2.0	4.0	13.1	17.4
MALE	1.0	3.0	5.0	17.6	23.7
FEMALE	0.3	1.0	2.0	8.3	14.8
VOCATIONAL (% OF SECONDARY)	23.6	2.9	4.9	7.2	5.3
PUPIL-TEACHER RATIO					
PRIMARY	41.0	44.0	65.0	46.1	38.6
SECONDARY	14.0	16.0	21.0	25.9	24.3
ADULT LITERACY RATE (%)	..	22.1 <sup>/i</sup>	25.0	44.3	35.6
<b>CONSUMPTION</b>					
PASSENGER CARS/THOUSAND POP	1.9	2.2	2.4 <sup>/j</sup>	3.8	20.7
RADIO RECEIVERS/THOUSAND POP	21.6	23.5	45.6	41.9	100.8
TV RECEIVERS/THOUSAND POP	1.8	..	..	2.0	18.5
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	..	..	5.3 <sup>/e</sup>	5.4	17.2
CINEMA ANNUAL ATTENDANCE/CAPITA	0.3	..	0.3 <sup>/h</sup>	1.4	0.3
<b>LABOR FORCE</b>					
TOTAL LABOR FORCE (THOUS)	1570.0	1981.0	2656.0	.	.
FEMALE (PERCENT)	38.7	38.1	37.1	36.5	33.8
AGRICULTURE (PERCENT)	92.0	89.0	86.0	77.4	57.1
INDUSTRY (PERCENT)	3.0	4.0	5.0	9.8	17.4
PARTICIPATION RATE (PERCENT)					
TOTAL	45.9	43.9	41.2	41.0	36.3
MALE	57.5	55.3	52.5	52.1	47.6
FEMALE	34.8	32.9	30.2	30.2	25.1
ECONOMIC DEPENDENCY RATIO	1.0	1.1	1.2	1.2	1.4
<b>INCOME DISTRIBUTION</b>					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5% OF HOUSEHOLDS	..	32.6 <sup>/g</sup>	..	..	..
HIGHEST 20% OF HOUSEHOLDS	..	50.6 <sup>/g</sup>	..	..	..
LOWEST 20% OF HOUSEHOLDS	..	10.4 <sup>/g</sup>	..	..	..
LOWEST 40% OF HOUSEHOLDS	..	21.5 <sup>/g</sup>	..	..	..
<b>POVERTY TARGET GROUPS</b>					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	123.0 <sup>/c</sup>	168.3	525.3
RURAL	..	..	99.0 <sup>/c</sup>	90.8	249.0
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	65.0 <sup>/c</sup>	107.7	477.4
RURAL	..	..	52.0 <sup>/c</sup>	65.0	186.0
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)					
URBAN	..	..	25.0 <sup>/c</sup>	34.7	..
RURAL	..	..	85.0 <sup>/c</sup>	65.4	..

.. NOT AVAILABLE  
. NOT APPLICABLE

NOTES

- <sup>/a</sup> The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.
- <sup>/b</sup> Unless otherwise noted, "Data for 1960" refer to any year between 1959 and 1961; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1980 and 1982.
- <sup>/c</sup> 1977; <sup>/d</sup> 1976; <sup>/e</sup> 1979; <sup>/f</sup> 1962; <sup>/g</sup> 1967; <sup>/h</sup> 1972; <sup>/i</sup> 1966, African population only; <sup>/j</sup> 1978; <sup>/k</sup> 1975.

DEFINITIONS OF SOCIAL INDICATORS

Note: Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe orders of magnitude, indicate trends, and characterize certain major differences between countries.

The reference groups are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "High Income Oil Exporters" group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinities). In the reference group data the average are population weighted arithmetic means for each indicator and shown only when majority of the countries in a group has data for that indicator. Since the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating averages of one indicator to another. These averages are only useful in comparing the value of one indicator at a time against the country and

AREA (thousand sq.km.)

Total - Total surface area consisting land area and inland waters; 1960, 1970 and 1981 data.  
Agricultural - Estimates of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or its fallow; 1960, 1970 and 1981 data.

GDP PER CAPITA (US\$)

- GDP per capita estimate at current market prices, calculated by same conversion method as World Bank Atlas (1980-82 base); 1960, 1970, and 1982 data.

ENERGY CONSUMPTION PER CAPITA

- Annual apparent consumption of commercial primary energy (coal and lignite, petroleum, natural gas and hydro, nuclear and geothermal electricity) in kilograms of oil equivalent per capita; 1960, 1970, and 1981 data.

POPULATION AND VITAL STATISTICS

Total Population, mid-year (thousands) - As of July 1; 1960, 1970, and 1981 data.

Urban Population (percent of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1960, 1970, and 1982 data.

Population Projections

Population in year 2000 - Current population projections are based on 1980 total population by age and sex and their mortality and fertility rates. Projection parameters for mortality rates comprise of three levels: (1) life expectancy at birth increasing with country's per capita income level and female life expectancy stabilizing at 77.3 years. The parameters for fertility rate also have three levels according to income level and past family planning performance. Each country is then assigned one of these nine combinations of mortality and fertility trends for projection purposes.

Stationary population - Is one in which age- and sex-specific mortality rates have not changed over a long period, while age-specific fertility rates have simultaneously remained at replacement level (net reproduction rate=1). In such a population, the birth rate is constant and equal to the death rate, the age structure is also constant, and the growth rate is zero. The stationary population is also estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate to replacement level.

Population Momentum - Is the tendency for population growth to continue beyond the time that replacement-level fertility has been achieved; that is, even after the net reproduction rate has reached unity. The amount of population in the year 2000 is measured as a ratio of the ultimate stationary population to the population in the year 2, given the assumption that fertility remains at replacement level from year 2 onward, 1982 base.

Population Density

Per sq. km. - Mid-year population per square kilometer (1/90 hectares) or 1/421 acres; 1960, 1970, and 1981 data.  
Per sq. km. agricultural land - Computed as above for agricultural land only; 1960, 1970 and 1981 data.

Population Age Structure (percent) - Children (0-14 years), working-age (15-64 years), and retiring (65 years and over) as percentage of mid-year population; 1960, 1970, and 1981 data.

Population Growth Rate (percent) - Total - Annual growth rate of total mid-year population for 1950-60, 1960-70, and 1970-81.

Population Growth Rate (percent) - Urban - Annual growth rate of urban population for 1950-60, 1960-70, and 1970-81.

Crude Birth Rate (per thousand) - Annual live births per thousand of mid-year population; 1960, 1970, and 1981 data.

Crude Death Rate (per thousand) - Annual deaths per thousand of mid-year population; 1960, 1970, and 1981 data.

Gross Reproduction Rate - Average number of daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970, and 1981.

Family Planning - Acceptors, annual (thousands) - Annual number of acceptors of birth-control devices under auspices of national family planning program.

Family Planning - Users (percent of married women) - Percentage of married women of child-bearing age who are practicing or whose husbands are practicing family planning or contraceptive use; those of child-bearing age are generally women aged 15-49, although for some countries contraceptive usage is measured for other age groups.

FOOD AND NUTRITION

Index of Food Production per Capita (1960=100) - Index of per capita annual production of all food commodities. Production includes seed and food and is on calendar year basis. Commodity cover primary goods (e.g. sugarcane instead of sugar) which are edible and contain nutrients (e.g. coffee and tea are excluded). Aggregate production of each country is based on national average producer price weights; 1961-65, 1970, and 1982 data.

Per capita supply of calories (percent of requirements) - Computed from energy equivalent of net food supplies available in country per capita per day. Available supplies comprise domestic production, imports less exports, and changes in stock. Net supplies exclude animal feed, seeds, quantities used in food processing, and losses in distribution. Requirements are on physiological basis on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distribution of population, and allowing 10 percent for waste at household level; 1961-65, 1970 and 1980 data.

Per capita supply of protein (grams per day) - Protein content of per capita net supply of food per day. Net supply of food is defined as above. Requirements for all countries established by WHO protein for human ailments of 60 grams of total protein per day and 20 grams of animal and pulse protein, of which 10 grams should be animal protein. These standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the third World Food Survey; 1961-65, 1970 and 1980 data.

Per Capita Protein Supply from Animal and Pulse - Protein supply of food derived from animal and pulse in grams per day; 1961-65, 1970 and 1977 data.

Child (ages 1-5) Death Rate (per thousand) - Annual deaths per thousand 1-5 age group 1-5 years, in children in this age group; for most developing countries data derived from life tables; 1960, 1970 and 1981 data.

HEALTH

Life Expectancy at Birth (years) - Average number of years of life remaining at birth; 1960, 1970 and 1982 data.

Infant Mortality Rate (per thousand) - Annual deaths of infants under one year of age per thousand live births; 1960, 1970 and 1981 data.

Access to Safe Water (percent of population) - Total, urban, and rural - Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs, and sanitary wells) as percentage of their respective populations. In an urban area a public fountain or stand-borne fountain not over 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the households or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

Access to Sewage Disposal (percent of population) - Total, urban, and rural - Number of people (total, urban, and rural) served by sewage disposal or percentage of their respective population. Sewage disposal may include the collection and disposal, with or without treatment, of human excreta and water-waste by water-borne systems or the use of pit latrines and similar installations.

Population per Physician - Population divided by number of practicing physicians qualified from a medical school at university level.

Population per Nursing Person - Population divided by number of practicing male and female graduate nurses, assistant nurses, practical nurses and nursing auxiliaries.

Population per Hospital Bed - total, urban, and rural - Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private general and specialized hospital and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally medical care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer inpatient accommodation and provide a limited range of medical facilities.

Admissions per Hospital Bed - Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING

Average Size of Household (persons per household) - total, urban, and rural - A household consists of a group of individuals who share living quarters and their own meals, a head of a household or may not be included in the household for statistical purposes.

Average number of persons per room - total, urban, and rural average number of persons per room in all urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.

Access to Electricity (percent of dwellings) - total, urban, and rural - Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

EDUCATION

Enrollment - Enrollment Ratio

Primary school - total, male and female - Gross total, male and female enrollment of all ages at the primary level as percentage of respective primary school-age population; normally includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education enrollment may exceed 100 percent since some pupils are below or above the official school age.

Secondary school - total, male and female - Enrolled on above; secondary education requires at least four years of approved primary instruction; provides general, vocational, or teacher training instruction for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.

Vocational enrollment (percent of secondary) - Vocational institutions include technical, industrial, or other programs which operate independently or as departments of secondary institutions.

Public-sector expenditure on education - Total students enrolled in primary and secondary levels divided by number of teachers in the corresponding levels.

Adult literacy rate (percent) - Literate white (able to read and write) as a percentage of total adult population aged 15 years and over.

COMMUNICATIONS

Passenger Cars (per thousand population) - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearse, and military vehicles.

Radio Receivers (per thousand population) - All types of receivers for radio broadcasts to general public per thousand of population; includes unlicensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.

TV Receivers (per thousand population) - TV receivers for broadcast to general public per thousand population; includes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.

Newspaper Circulation (per thousand population) - Shows the average circulation of daily general interest newspaper, defined as a periodical publication with an average circulation of 100,000 copies. It is considered to be "daily" if it appears at least four times a week.

Cinema Annual Attendance per Capita per Year - Based on the number of tickets sold during the year, including admissions to drive-in cinema or mobile units.

LABOR FORCE

Total Labor Force (thousands) - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc., covering population of all ages. Definitions in various countries are not comparable; 1960, 1970 and 1981 data.

Female (percent) - Female labor force as percentage of total labor force.

Agriculture (percent) - Labor force in farming, forestry, hunting and fishing as percentage of total labor force; 1960, 1970 and 1981 data.

Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1981 data.

Participation Rate (percent) - total, male, and female - Participation or activity rates are computed on total, male, and female labor force as percentage of total, male and female population of all ages respectively; 1960, 1970, and 1981 data. These are based on ILO's participation rates reflecting age-sex structure of the population, and long term trend. A few estimates are from national sources.

Gender Parity Ratio - Ratio of population under 15 and 65 and over to the working age population (those aged 15-64).

INCOME DISTRIBUTION

Percentage of Private Income (both in cash and kind) - Received by richest 5 percent, richest 10 percent, poorest 20 percent, and poorest 50 percent of households.

POVERTY VULNERABILITY

The following estimates are very approximate measures of poverty levels, and should be interpreted with considerable caution.

Estimated Absolute Poverty Income Level (US\$ per capita) - urban and rural - Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

Estimated Relative Poverty Income Level (US\$ per capita) - urban and rural - Rural relative poverty income level is one-third of average per capita annual income of the country. Urban level is derived from the rural level with adjustment for higher cost of living in urban areas.

Estimated Population Below Absolute Poverty Income Level (percent) - urban and rural - Percent of population (urban and rural) who are "absolute poor".

Population : 6452 - (mid-1982, thousands)  
GDP Per Capita: US\$210 - (1982)

MALAWI - ECONOMIC INDICATORS

Indicator	Amount (million US\$ at current Prices) 1983	Annual growth rate (%)									
		Actual					Projected				
		1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<b><u>NATIONAL ACCOUNTS</u></b>											
Gross domestic product <sup>a</sup>	1326.9	5.4	0.8	-0.3	2.6	4.4	3.3	3.4	3.7	3.8	4.1
Agriculture	482.1	9.2	-5.4	3.6	5.9	3.2	3.2	3.4	3.6	3.7	3.8
Industry	229.1	-2.8	0.7	-4.8	-3.7	11.0	3.2	3.6	4.0	4.4	4.8
Services	509.2	1.0	7.5	-2.2	2.0	2.8	3.2	3.4	3.6	3.8	4.1
Consumption	1140.2	-2.2	4.1	-2.6	-0.1	6.4	9.4	-0.6	2.1	2.3	2.5
Gross Investment	302.8	11.8	-25.3	-17.7	-2.1	13.2	-16.2	5.7	5.2	5.3	5.7
Exports of GNP	250.8	19.7	26.0	-15.8	-8.8	9.0	9.8	6.4	4.7	4.8	4.8
Imports of GNP	356.3	1.3	-10.8	-20.4	-11.3	6.5	10.4	-3.2	1.5	1.6	1.7
Gross national savings	52.0	50.3	-26.8	4.4	56.9	-47.6	-	-	-	-	-
<b><u>PRICES</u></b>											
GDP deflator (1979=100)		100.0	120.5	139.0	159.2	174.0	191.4	210.5	228.4	245.6	264.0
Exchange rate(US\$/kwacha)		1.226	1.231	1.119	0.950	0.851	0.750	0.750	0.750	0.750	0.750
<b>Share of GDP at Market Prices (%) (at current prices)<sup>b</sup></b>											
		1975	1980	1985	1990	<b>Average Annual Increase (%) (at constant 1979 prices)</b>					
						1975-80 <sup>c</sup>	1980-85	1985-90			
Gross domestic product		100.0	100.0	100.0	100.0	5.6	2.9	4.1			
Agriculture		37.5	39.6	41.7	41.2	5.8	3.9	3.8			
Industry		19.4	17.4	16.5	17.1	4.7	2.4	4.7			
Services		43.1	43.0	41.8	41.7	5.9	2.5	4.1			
Consumption		85.4	85.9	92.3	87.2	5.0	4.5	2.8			
Gross Investment		31.6	25.9	18.9	20.3	4.3	-2.4	5.6			
Exports GNP		28.8	30.9	27.0	28.0	8.7	1.1	4.8			
Imports GNP		50.9	42.7	38.2	35.4	3.2	2.4	2.4			
Gross national savings		12.6	13.4	-	-	-	-	-			
<b>as % of GDP</b>											
		1970/71	1975/76	1981/82	1983/84						
<b><u>PUBLIC FINANCE</u></b>											
Current revenues			15.5	16.5	18.2	17.8					
Current expenditures			16.5	15.4	19.1	17.4					
Surplus (+) or deficit (-)			-1.1	1.1	-0.9	0.4					
Capital expenditure			12.4	12.9	10.2	9.0					
Foreign financing			11.2	8.8	2.6	4.6					
<b><u>OTHER INDICATORS</u></b>											
GDP growth rate (%)			5.8	3.2	4.3						
GDP per capita growth rate (%)			1.9	0.3	1.5						
Energy consumption growth rate (%)			6.1	2.0	2.8						
ICOR			6.4	8.0	4.8						
Marginal savings rate			0.1	-0.4	0.4						
Import elasticity			-0.2	0.8	0.6						

<sup>a/</sup> Components are expressed at factor cost

<sup>b/</sup> Projected years at constant prices

<sup>c/</sup> At constant 1980 prices

Population : 6452 - (mid-1982, thousands)  
GDP Per Capita : US\$210 - (1982)

## MALAWI - External Trade

Indicator	Amount (million US\$ at current prices) 1983	Annual Growth rate (%) (at constant 1980 prices)									
		Actual					Projected				
		1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<b>EXTERNAL TRADE</b>											
Merchandise exports	212.2	29.5	22.9	-14.2	-9.4	6.2	7.5	6.7	4.5	4.6	4.7
Primary	202.8	32.0	17.3	-13.7	-7.1	8.5	7.9	7.0	4.6	4.6	4.7
Manufactures	9.4	8.8	137.8	0.0	-27.3	-28.1	4.0	4.0	4.0	4.5	5.0
Merchandise imports	325.8	0.1	-9.7	-17.1	-18.7	0.1	3.9	2.4	2.9	3.0	3.2
Food	8.5	17.5	35.0	57.2	-56.3	-11.4	9.5	-2.5	0.8	1.0	1.3
Petroleum	50.6	27.3	-8.6	-5.0	-20.8	1.7	2.6	2.7	2.8	2.9	3.1
Machinery and equipment	65.6	-33.0	11.9	-51.3	-16.9	-3.8	4.6	5.9	5.5	5.7	5.9
Others	201.1	6.5	-24.5	-6.6	-8.6	2.5	3.5	1.6	2.2	2.3	2.3
<b>PRICES (1980=100)</b>											
Export price index	-	-9.9	3.4	29.9	9.9	-8.4	8.6	4.0	10.2	8.9	8.9
Import price index	-	14.0	21.8	16.9	7.6	9.9	2.2	7.2	9.1	9.4	9.4
Terms of trade index	-	-20.9	-15.1	11.1	2.2	-16.7	6.2	-3.0	1.0	-0.5	0.4
<b>Composition of Merchandise Trade (%) (at current prices)</b>											
		1975	1980	1985	1990	<b>Average Annual Increase (%) (at constant 1979 prices)</b>					
						1975-80	1980-85	1985-90			
Exports	100.0	100.0	100.0	100.0		9.6	-1.1	4.7			
Primary	92.6	89.7	89.8	89.5		8.3	-0.8	4.6			
Manufactures	7.4	10.3	10.2	10.5		17.8	-3.5	5.2			
Imports	100.0	100.0	100.0	100.0		-1.4	-6.0	3.2			
Food	4.9	7.3	6.5	6.1		-0.9	-13.0	1.7			
Petroleum	9.1	13.9	15.6	15.5		8.3	-4.6	3.0			
Machinery and equipment	24.5	34.4	20.7	23.4		1.0	-12.8	5.8			
Others	61.5	44.6	57.2	55.0		-4.5	-1.3	2.4			
<b>Share of Trade with Industrial Countries (%)</b>											
		1970	1975	1980	<b>Share of Trade with Developing Countries (%)</b>			<b>Share of Trade with Capital Surplus Oil Exporters <sup>1/</sup>(%)</b>			
					1970	1975	1980	1970	1975	1980	
<b>DIRECTION OF TRADE</b>											
Exports	65.3	76.2	69.0	11.3	10.3	7.0	23.4	13.5	24.0		
Primary	-	-	-	-	-	-	-	-	-		
Manufactures	-	-	-	-	-	-	-	-	-		
Imports	56.7	64.8	75.0	24.2	14.5	6.0	19.0	20.7	19.0		

<sup>1/</sup> Includes other developing countries

Eastern Africa Region  
October 24, 1986

Population : 6452 (mid-1982, thousands)  
GDP Per Capita : US\$210 - (1982)

**MALAWI - BALANCE OF PAYMENTS, EXTERNAL CAPITAL AND DEBT**  
(millions US\$ at current prices)

Indicator	Actual					Projected				
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<b>BALANCE OF PAYMENTS</b>										
Exports of goods and services	274.1	353.6	348.8	302.6	277.8	314.0	347.6	398.8	453.7	668.1
Of which: Merchandise f.o.b	222.4	284.5	287.7	242.6	212.6	248.2	275.1	317.1	361.1	538.0
Imports of goods and services	525.5	585.6	506.5	404.3	419.6	453.5	483.4	540.6	593.4	802.9
Of which: Merchandise f.o.b.	309.9	342.9	280.8	214.0	209.0	222.1	243.8	273.6	308.5	430.4
Net transfers	-0.4	-6.4	-1.5	-8.7	-9.9	-10.8	-11.6	-12.4	-13.2	-16.2
Current account balance	-251.8	-238.4	-159.2	-110.6	-151.7	-150.3	-167.4	-154.2	-152.9	-151.0
Private direct investment	-	-	-	-	-	-	-	-	-	-
Official grant aid	46.6	50.1	46.3	36.3	29.5	35.0	42.0	50.0	53.5	65.5
MFI loans (net)	96.8	128.2	87.8	43.5	37.7	27.4	24.9	83.3	75.2	104.5
Official	81.8	99.1	72.3	58.6	49.9	58.9	55.3	104.5	84.2	119.7
Private	15.0	29.1	15.5	-15.1	-12.2	-31.5	-30.4	-21.2	-9.0	15.2
Other items	97.1	42.1	40.1	-0.7	38.2	77.9	85.5	30.4	33.0	-6.7
Changes in reserves (- = increase)	11.3	18.0	-15.0	31.3	46.3	10.0	-5.0	-9.5	-8.8	-12.3
International reserves	64.5	71.5	49.0	22.7	19.8	9.8	14.8	26.3	33.1	68.1
of which Gold	-	-	-	-	-	-	-	-	-	-
Reserves as months imports	1.7	1.5	1.2	0.7	0.6	0.2	0.4	0.5	0.7	1.0
<b>EXTERNAL CAPITAL AND DEBT</b>										
Gross Disbursements	171.9	211.3	173.5	109.5	96.0	112.7	120.1	187.9	180.1	252.5
Official Grants	46.6	50.1	46.3	36.3	29.5	35.0	42.0	50.0	53.5	65.5
Concessional Loans	43.1	60.5	46.1	42.8	48.9	49.0	48.3	55.1	63.3	87.6
DAC	16.8	17.7	11.6	5.4	1.8	5.9	6.2	10.0	12.1	16.1
OPEC	-	-	-	-	-	-	-	-	-	-
IDA	14.4	15.1	21.0	27.1	32.3	28.2	30.8	35.9	41.1	57.0
Other	11.9	27.8	13.5	10.3	14.8	14.8	11.3	9.2	10.1	14.4
Non-Concessional Loans	82.2	100.7	81.1	30.4	17.6	28.7	29.8	82.8	63.3	99.4
Official Export Credits	8.9	28.2	3.4	1.2	6.7	5.3	8.1	12.3	15.3	20.1
IBRD	12.8	7.6	26.8	21.0	1.5	1.0	10.6	52.5	22.7	31.9
Other Multilateral	5.1	6.9	3.0	0.7	2.0	16.1	3.5	6.3	9.6	19.8
Private	55.4	57.9	47.9	7.6	7.3	6.3	7.6	11.8	15.6	27.6
External Debt										
Debt Outstanding and Disbursed	718.5	638.8	726.6	770.1	807.8	835.2	860.0	943.3	1018.6	1354.0
Official	547.1	413.4	485.6	544.2	594.1	652.9	708.2	812.7	896.9	1213.5
Private	171.4	225.4	247.9	225.9	213.7	182.2	151.8	130.6	121.6	140.5
Undisbursed Debt	171.4	171.2	203.8	188.8	225.6	263.3	335.6	412.0	528.1	747.8
Debt Service										
Total Service Payments	-43.5	-67.6	-88.8	-61.7	-58.3	-80.9	-91.3	-103.4	-101.8	-134.6
Interest	-24.3	-34.6	-49.3	-32.0	-29.6	-30.6	-33.2	-40.1	-37.9	-51.0
DPF Charges and Repurchases	-6.0	-6.6	-13.5	-19.9	-26.7	-27.6	-25.9	-34.2	-37.2	-31.9
Payments as % Exports	15.9	19.1	25.4	20.4	21.0	25.8	26.3	25.9	22.4	20.1
Average Interest Rate on new loans (%)	8.3	5.8	6.6	4.0	2.4	8.4	8.4	7.3	7.5	8.4
Official										
Private										
Average Maturity of new loans (years)	18.4	23.3	29.9	30.7	27.7	22.2	22.2	26.3	25.7	22.4
Official										
Private										
As % of Debt Outstanding at End of December 31, 1983										
Maturity structure of debt outstanding										
Maturities due within 5 years			29.0							
Maturities due within 10 years			44.1							
Interest structure of debt outstanding										
Interest due within first year			3.6							

THE STATUS OF BANK GROUP OPERATIONS IN MALAWI

A. Statement of Bank Loans and IDA Credits (as of September 30, 1984)

<u>Loan or Credit No.</u>	<u>Year</u>	<u>Borrower</u>	<u>Purpose</u>	<u>Bank</u>	<u>Undis-</u>	
				<u>incl. Third Window</u>	<u>IDA</u>	<u>bursed</u>
				(US\$ Million)		
Five loans and 16 credits have been fully disbursed				73.96 <sub>a/</sub>	131.63	
711-MAI	1977	Malawi	Water Supply		7.00	0.61
857-MAI	1978	Republic of Malawi	National Rural Development Program I		22.00	4.53
910-MAI	1979	"	Education III		14.50	1.91
992-MAI	1980	"	National Rural Development Program II		13.80	5.44
1099-MAI	1981	"	Highway IV		33.00	2.69
1123-MAI	1981	"	Education IV		41.00	15.78
2027-MAI	1981	"	Technical Assistance	1.00		0.15
1183-MAI	1981	"	National Rural Development Program III		7.30	4.05
1272-MAI	1982	"	Lilongwe Water Supply Eng. Project		4.00	2.03
1330-MAI	1983	"	Fifth Education Project		34.00	30.26
1343-MAI	1983	"	NRDP IV		10.60	9.61
1351-MAI	1983	"	Health Project		6.80	5.22
1352-MAI	1983	"	Smallholder Fertilizer		5.00	0.63
1423-MAI	1984	"	Fifth Highway		26.90 <sub>b/</sub>	24.36 <sub>b/</sub>
1427-MAI	1984	"	Structural Adjustment II		55.00	23.57
1428-MAI	1984	"	Technical Assistance II		1.50	1.40
2363-MAI	1984	"	Fifth Highway	18.00		17.95
TOTAL				92.96	414.03	
of which has been repaid				3.32	4.92	
Amount sold						
of which repaid						
TOTAL now held by Bank and IDA				89.64	409.11	
TOTAL undisbursed				18.10	132.09	150.19

a/ Less cancellations.

b/ Includes Special Fund.

**B. IFC INVESTMENT IN MALAWI**  
**September 30, 1984**

<u>Investment Number</u>	<u>Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>Equity</u>	<u>Loan</u>	<u>Total</u>	<u>Total Held by IFC</u>	<u>Undis- bursed</u>
						(US\$ Million)		
326-MAI	1976	David Whitehead & Sons (Malawi) Limited	Textiles	-	10.8	10.8	4.7	-
362-MAI	1977	Dwangwa Sugar Corpora- tion Limited	Sugar	-	9.9	9.9	8.8	-
434-MAI	1978	Investment and Development Bank of Malawi	Development Finance Company	0.6	-	0.6	0.6	-
502-MAI	1979	Malawi Hotels Limited	Tourism	-	2.0	2.0	2.0	1.6
542-MAI	1980	Ethanol Company Limited of Malawi	Manufactur- ing Alcohol from Molasses	0.3	1.9	2.2	2.1	-
			<u>TOTALS</u>	<u>0.9</u>	<u>24.6</u>	<u>25.5</u>	<u>18.2</u>	<u>1.6</u>

MALAWI

WOOD INDUSTRIES RESTRUCTURING PROJECT

Supplementary Project Data Sheet

I. Timetable of Key Events

- (a) Time taken to prepare project: 30 months.
- (b) Prepared by: Government with assistance from the Bank and consultants.
- (c) Initial discussion with the Bank Group: April 1981.
- (d) First IBRD mission: November 1981.
- (e) Appraisal Mission Departure: November 1983.
- (f) Negotiations: November 12-16, 1984.
- (g) Planned Date of Effectiveness: May 1985.

II. Special Bank Implementation Action

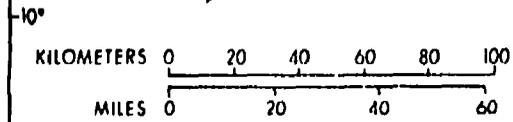
None.

III. Special Conditions

- (a) WICO would, by September 30, 1985, submit to the Government and the Bank a master schedule of project activities for the WICO component and, upon receipt of their comments, finalize and implement such a schedule (para. 68).
- (b) The Government-appointed agency would, by September 30, 1985, submit to Government and the Bank for review and comment, a master schedule of project activities and thereafter, finalize and implement such a schedule (para. 69).
- (c) The Government would, for the technical assistance component, employ consultants whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Bank (para. 69).
- (d) The Government would maintain sawnwood and panelboard in the list of products whose prices have been decontrolled in December 1983 (para. 41).

- (e) Special conditions of disbursements are that: (i) no withdrawals for category 1 of Schedule 1 (technical assistance to Government for alternative use studies) shall have been made unless the project manager is employed (para. 69); and (ii) no withdrawals for Part A of Schedule 1 (wood industries restructuring component) shall be made unless the subsidiary loan agreement with WICO shall have been signed and WICO shall have submitted to Bank its opening audited financial statement (para. 75).

# MALAWI WOOD INDUSTRIES PROJECT

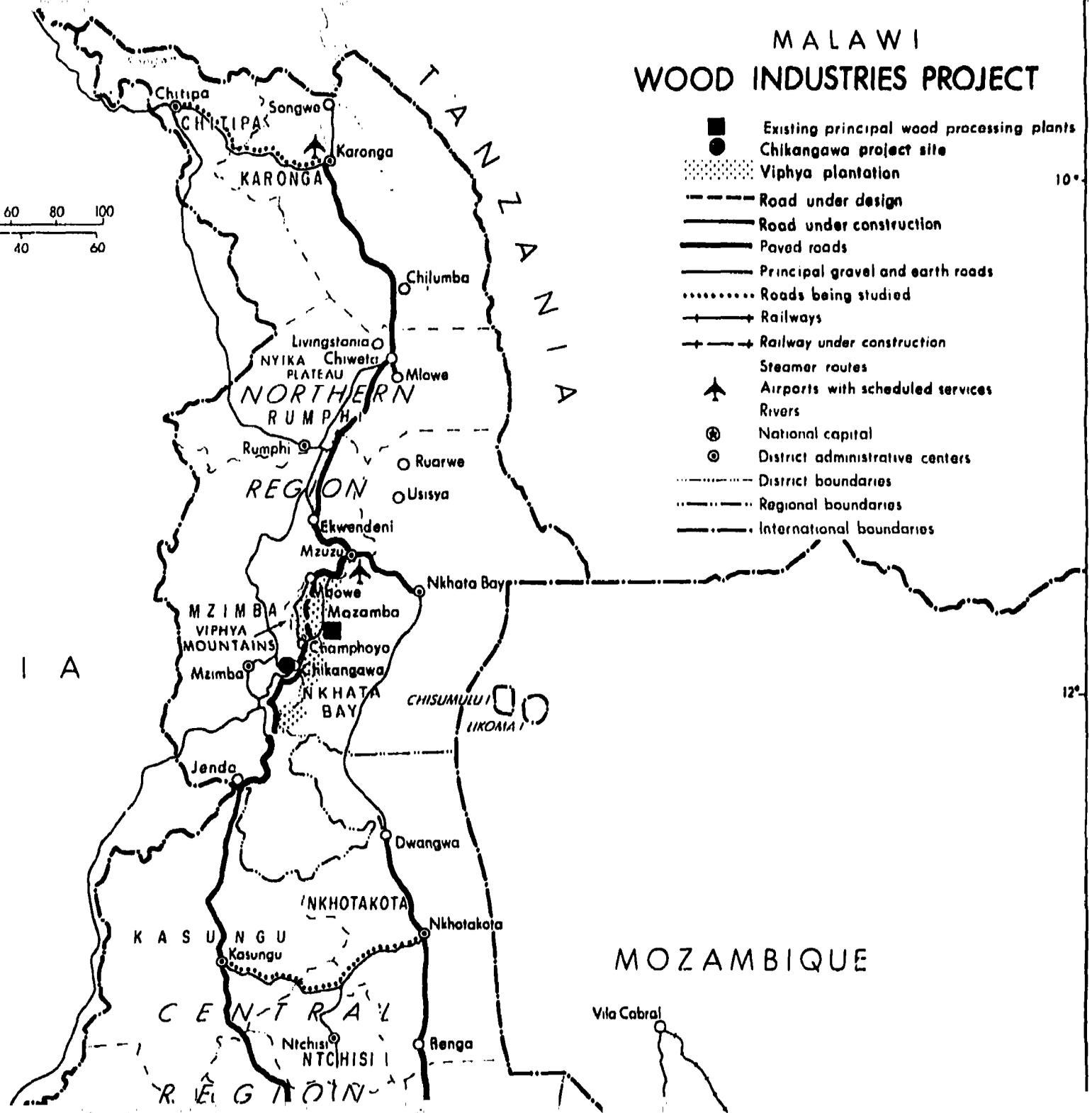


10°

10°

12°

12°

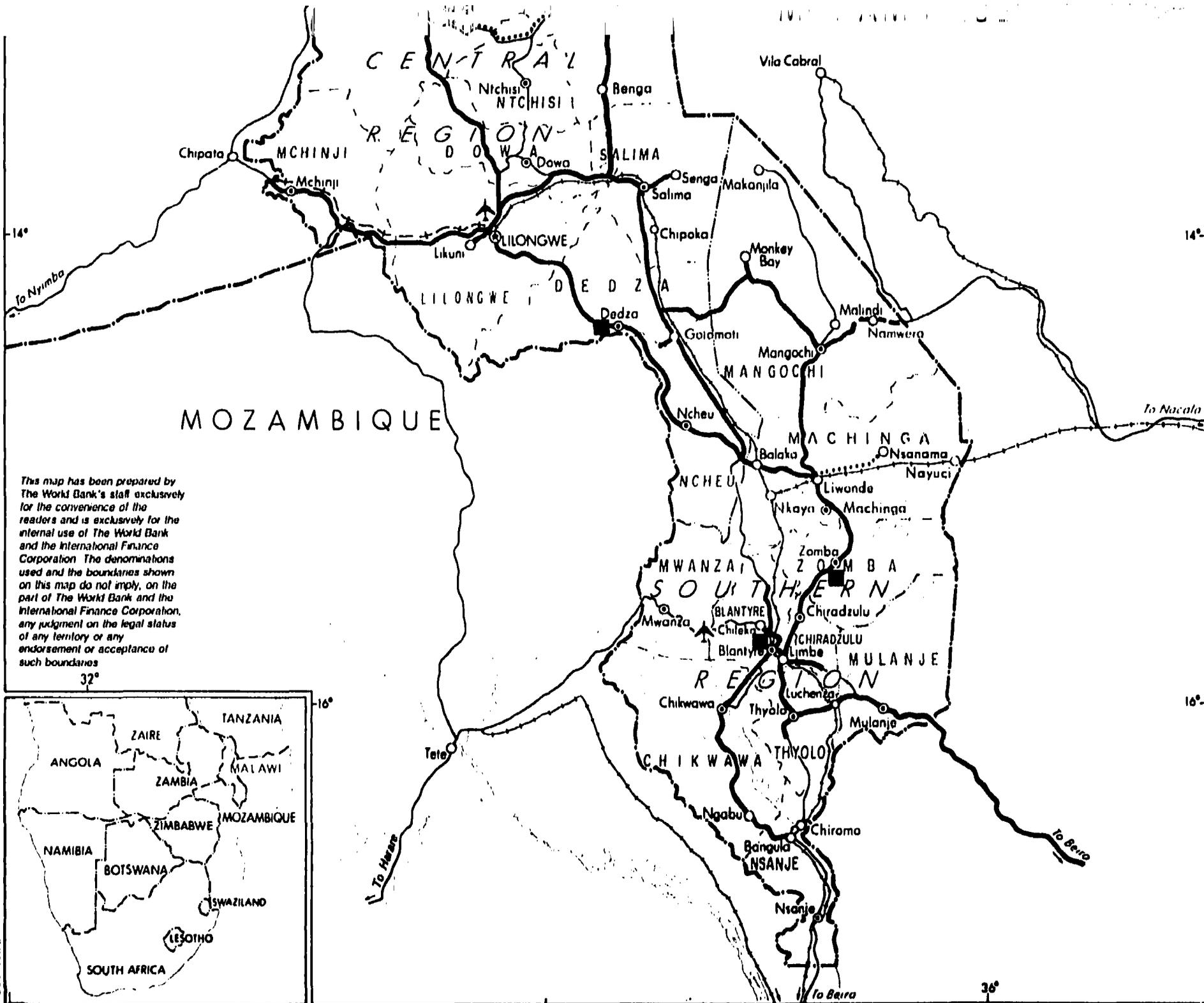


- Existing principal wood processing plants
- Chikangawa project site
- ▨ Vipha plantation
- - - Road under design
- - - Road under construction
- ▬ Paved roads
- ▬ Principal gravel and earth roads
- ⋯ Roads being studied
- Railways
- Railway under construction
- Steamer routes
- ✈ Airports with scheduled services
- Rivers
- ⊕ National capital
- ⊙ District administrative centers
- ⋯ District boundaries
- ⋯ Regional boundaries
- ⋯ International boundaries

Z A M B I A

MOZAMBIQUE

Vila Cabral



This map has been prepared by The World Bank's staff exclusively for the convenience of the readers and is exclusively for the internal use of The World Bank and the International Finance Corporation. The denominations used and the boundaries shown on this map do not imply, on the part of The World Bank and the International Finance Corporation, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.



JULY 1984

IBRD 1815R

