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INDUSTRIAL DEVELOPMENT IN MALAWI*

SI/MLN/78/004

Introductory Study

by

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1. FOREWORD

This is an introductory paper to a plan of industrial development in Malawi.

The basic problem is how much of financial limited resources should be spent to foster the secondary sector in a Country endowed with apparently large agricultural resources.

As most often is the case, there is no ready-made answer to such question.

Resourceless, over-populated, confusingly land-locked Malawi is no doubt a peculiar case, commanding highest concern about perturbing effects which an accelerated industrialization may have on its socio-economic equilibrium.

This paper is intended to provide a meditated approach to an optimal answer for the Malawian case.

It is based on literature and documents available, conveniently digested in the light of direct experience accrued at the UNIDO headquarters

Highly qualified contribution was also available from the University of Vienna, where lectures and papers are being devoted to the Malawian human geography as drawn from in-field research.

2. SUMMARY AND CONCLUSIONS

Notwithstanding initially poor institutions, infrastructures and resources, socio-economic achievements since political independence appear to have been remarkable.

Over the period 1964-78 GDP at constant terms is estimated to have grown by an average 6.4 %, savings grew from practically nil to about 15 % of GDP, and investments rose from a very low level to over 30 %.

Demographic pressure and unemployment problems were wisely managed through an extensive public works programme, integrated rural development schemes and the National Rural Development Plan; whereas estates and small holders' monetary farming were largely responsible for exports not lagging too much behind ever increasing imports.

The manufacturing sector, initially mainly intended to process agricultural commodities for the domestic and export markets, was gradually developing to include some agricultural inputs and consumer goods. However establishment of foreign-financed capital-intensive industries was in general not particularly encouraged; and tariff protection was only granted in the limits strictly required to provide a secure domestic market for internationally competitive manufacturers, expected mainly to enjoy natural comparative advantages such as cheap manpower and differential freight costs.

Over the period 1964-72 growth rates at constant prices are estimated at 6.5 % for agriculture, 12.0 % for the manufacturing sector and 8.0 % for the whole economy.

In the same period sectoral contribution to total GDP moved from 57 to 51 % for agriculture and from 9 to 12 % for manufacturing.

However over the period 1973-78 declining rates of growth were recorded, i.e. 3.7 % for agriculture, 7.0 % for manufacturing and 6.4 % for the whole economy. (1)

In the same period the GDP structure maintained its trend, with increasing contribution from manufacturing.

Reported reasons for the 1973-78 slow-down were adverse meteorological conditions and foreign political events, heavily affecting external trade and supplies. Notwithstanding, statistical evidences would suggest that other reasons underlying the adverse trend may also be of structural nature. This is also supported by comparable trends of wage-employment which appear to have grown at higher rates than GDP, implying declining marginal productivity of both employment (disguised unemployment) and of land (lower-grade soils).

Accordingly, for sustained high growth rates increasing marginal inputs in terms of capital technology and materials would be needed especially for agriculture, which might eventually no longer play its usual pushing role in the country's development.

(1) Comparable down-ward trends were recorded for the remaining sectors, except for Government, due to a general increase of salaries.

Such a conclusion would suggest that Malawi is approaching a second stage of her development process, whereby increasing reliance should be given to, and higher contribution should be expected from, the secondary sector.

Irrespective of such somewhat doctrinary statement, as far as the manufacturing sector is concerned it would appear that the most immediate import-substitution opportunities have been exhausted, and that more sophisticated, higher-technology and more capital-intensive operations are to be searched for a continued growth of the economy, including agriculture.

Indeed, available data on main macro-economic indicators such as capital-to-output ratio, fixed assets per job, value added-to-output ratio and structure of value added, would suggest that the sector's production facilities are generally rudimentary and over-aged, its production spectrum is fairly limited, and that its still high rentability may be close to fall down after having effectively contributed, along with the primary sector, to the initial stage of capital formation and to the establishment of some financially and technically sound groups.

Whether and at what extent future growth should rely on demand - or export-based activities, in consumer or capital goods and for which end-use, an answer may be given only by an appropriate study based on a detailed sectoral survey of the whole economy, on the structural analysis and trends of external trade, and on the expectable evolution of the main trading partners and terms-of-trade.

It would however appear that the country's peculiar geo-socio-economic conditions would limit the choice to a certain number of specified industrial activities, to supply main strategical commodities to the domestic market, and to expand and diversify exports

3. THE GENERAL SETTING

3.1 Historical Background

Following Livingstone's first exploration in 1859, a British Protectorate was declared on the Shire Region, and eventually extended to cover the whole of the present Malawian territory, under the name of Nyasaland Protectorate.

In 1953 Nyasaland, Southern Rhodesia and Northern Rhodesia were incorporated in a Federation, which however dissolved in 1963. Independence was formally granted in 1964.

The country was re-named Malawi, and in 1966 became a Republic, under the President Dr. Banda, currently life-President.

3.2 Geography

Malawi is a land-locked country, covering about 120,000 sq.km along the southern and western shores of lake Malawi, which in turn covers about 24,000 sq.km.

Its Northern Region and, at a lesser extent, the Central Region are mountainous and scarcely populated. The Southern Region is mostly a plateau 500 m above sea level, with one of the highest population density in Africa and the highest industrial development in the country.

The Southern Region is an enclave into the Mozambique territory, other bordering countries being Tanzania in the north-east, and Zambia in the west.

Political problems occurring in any of these countries heavily affect the Malawian vital external trade, whose main partners are South Africa usually through Rhodesia and Zambia, and the U.K. through the increasingly jammed ports of Beira and Nacala in Mozambique.

3.3 Resources

3.3.1 Minerals

Malawi has several mineral deposits including coal, bauxite, apatite, limestone and clay. Of them, mainly limestone and clay have so far been

commercially developed for cement, bricks and tiles. Some kaolin and plastic clay, would also be readily available for a ceramic industry to supply local demand. Major developments of coal and apatite (or other phosphates) known deposits might supply valuable inputs to the domestic industry; and reserves totalling about 30 million tons good-grade bauxite appear to be suitable for production of Bayer-process alumina.

3.3.2 Agricultural Land

Out of a rough 10 million hectares arable land, only half of it is presently under culture. However, much of the unused arable land is classified as marginal, requiring special conservation measures and expensive reclamation and infrastructural works.

Indeed, relative scarcity of good land, especially in the mountainous northern region, appears to be a main reason for its scarce population density and for the modest success of new settlements.

3.3.3 Forestry

The forestry potential is considerable, though largely unexploited.

The Department of Forestry manages over 770,000 ha, and an extensive afforestation programme is underway mostly in the northern region, including the Vipha plantation intended to supply a 150,000 ton pulp mill to be established at Chintheche, on the lake

3.3.4 Fishery

Good potentials are envisaged in the lakes and in some rivers, where research is being developed for more technical operation intended to supply local demand and industrial process, including canning and smoking.

3.3.5 Energy

No oil deposits are known to exist, and known reserves of low-grade coal appear to be not commercially exploitable. Hydro-electrical potential is however estimated in excess of 1,000 MVA, and its exploitation would not apparently pose special problems.

3.4 Population, Employment and Wages

By mid-1976 population was estimated at 5.2 million, and growth rate at 2.6%. The age structure, as usual in developing countries, is very young: 44% under 14; 52% from 15 to 65; and only 4% over 65.

In 1970 urban population was estimated at a low 6%; it is however increasing though the Government is committed to keep urbanization under control through its National Rural Development Plan (NRDP).

Labour force is in the range of 1.6 million; and wage employment in establishments with more than 20 workers is about 340,000 as compared with 130,000 in 1968. Its structure and growth over the period 1968-1972 is shown in table No. 1, along with average monthly wages. Wage employment in establishment with less than 20 is estimated at about 35,000. Evidence for disguised unemployment may be found especially in monetary agriculture

Up to 250,000 migrant workers are employed in South Africa, Rhodesia and Zambia, mostly in mining activities. Political and social problems are implied in this migration.

3.5 Income Distribution

Two sets of data are quoted by the World Bank Reports 560 a-MAI and 1677 a-MAI, concerning income distribution in Malawi. They are given below, along with similar data applying to two reference countries:

	<u>% of income received</u>			
	Malawi 1970		Tanzania 1976	Denmark 1968
highest 5% population	27.0	0.0	34.0	22.0
highest quintile	44.0	52.9	60.0	48.0
lowest 40%	24.0	0.0	14.0	14.0
lowest quintile	10.0	5.7	5.0	4.0

Though for many reasons a crude comparison of the above data is scarcely meaningful by itself, it would appear that the Malawian distribution is lesser skewed than even the Tanzanian distribution (1) and, so to say, physiologically appropriate to its stage and type of economic development. In other terms income distribution appear to have reached a reasonable degree of concentration, as needed for further economic growth.

(1) The World Bank Report 1616 TA, December 1977 quotes an even more skewed distribution for Tanzania, i.e. highest quintile 63.3%, lowest quintile 2.3%. Tanzania's 1976 population is 15.1 million, GNP at market price US\$ 2,499.0 million, and GNP per capita US\$166. This compares with 1973 Malawian population 4.7 million, GNP US\$499.5 million and US\$105 GNP per capita. The Tanzanian 1973 GDP shares of agriculture and industry are 43.2 and 13.8%, comparable with the Malawian 47.9 and 12.0%. Also the non-monetary shares of GDP are in the same order of magnitude.

However, regional and urban-to-rural distribution may be more in need for improvement; which the Government is attempting through its decentralization efforts and terms-of-trade policy in favour of agricultural staple commodities.

3.6 Main Infrastructures

Geographic location, regional unbalances and economic structure pose peculiar infra-structural requirements, not seldom exasperated by political problems.

3.6.1 Transport

Basic rail and road links within the country, with bordering countries and, through them, with main trading partners are still critical, though expansions and improvements are well underway.

Their ultimate efficiency is, however, heavily dependent upon facts out of control, such as closures of borders and limited capacity of the Mozambique ports, roads, and railway systems

Improvement of air-links are also underway, with the new Lilongwe international airport and other domestic airports.

3.6.2 Electricity and Water

Hydro-electric estimated capacity is about 1.000 MVA, as compared with no more than 100 MVA currently installed in Nkula Falls and Tedzani. Some electricity is also exported to Mozambique.

Projects for suitable expansion are under study to meet increasing demand.

A new 132 KV transmission line from Nkula to Lilongwe is in operation, but a national unified network may be a problem for some years ahead. This is especially concerned with new agricultural irrigated schemes.

3.6.3 Industrial Estates

Two small-scale industrial estates at Lilongwe and Liwonde are being promoted by the Government-owned Malawi Development Corporation (MDC) and the Investment and Development Bank of Malawi (INDEBANK), whose initial capital is held in equal shares by Government through the Agricultural Development and Marketing Corporation (ADMARK), and by the British, Dutch and German bi-lateral aid agencies.

3.6.4 Education and Training

As usual in developing countries, shortage of properly educated and

trained personnel appears to be a major constraint.

Plans are, however, underway for an improved formal and vocational programme, based on the 1971 manpower survey forecast, indicating needs for a 14% yearly increase in view of future development.

4. THE ECONOMIC SETTING

4.1. - Gross Domestic Product

Table No. 2 shows the evolution of GDP by main sectors over the periods 1964-72 (old series, at current factor cost), and 1973-78 (new series, at constant factor cost).

Table No 3. shows structural changes of GDP over the same period, along with its sectoral growth rates at constant factor cost. (1)

From the above tables the following conclusions may be drawn:

- Even taking into account the adverse results of 1976, notoriously due to political and meteorological reasons, the overall growth rates and trend in the 2nd period are by far lower than in the 1st period.
- Irrespective of the aggregate "Government and other sectors", whose trend appear to have been affected by wage increases in the Government sector, growth seems to have been particularly affected in the primary sector, especially sensitive to meteorological conditions, and in the manufacturing sector especially sensitive to external supplies and indirectly to the adverse conjuncture of the Malasian agro-based industry.
- The adverse trend of both agriculture and manufacture may also reflect adverse marginal development conditions, such as lower-grade marginal land and increasing technical requirements for sustained higher yields.
- The above appear to be especially supported by the heavily declining trend of the agriculture non-monetary GDP (with a growth rate just above the population growth rate), on which most of the population still rely for subsistence and which is still a large share of total and agricultural GDP.

(1) For comparability purpose the 1964-72 sectoral data were somewhat arbitrarily converted at constant market price by using the same total GDP deflator. In addition it was assumed that trends at constant market prices are comparable with those at constant factor cost

- The GDP structure appears to have slightly improved, though the primary sector's share is still too high, and the secondary sector's still too low.
- Changing the above sector's relative shares appear to be so much more important in the special Malawian geo-political situation, if agricultural marginal output and productivity are really hampered by shortage of good land and by increasing unit requirements of financial, technical and materials inputs.

4.2. Expenditures, savings and investments

Tables No. 4 and 5 show details on domestic supply and expenditures over the period 1966-78.

Due to increasing deficit in the trade balance, domestic supply raised well above GDP, up to about 1,035 million Kwacha from 165 million in 1964.

On the expenditure side, consumption both public and private increased at a much lower pace, generating savings up to 15,6 % of GDP which, for a country at so low income levels, is an outstanding performance. However, investments rose up to 34 % of GDP; and domestic resource gap went up to 16,8 % of GDP, which was made-up through net foreign transfers, capital inflow and external reserves.

In 1978, the Government's investment share was 40%, mainly in infrastructures. The remaining 60%, mainly for machinery and equipment, was contributed by public corporations (22%) and by private enterprises (38%).

Planned infrastructural investments in the period 1971-80 were 29 % in transport, 19 % in agriculture, 15 % in social services, 13 % in the new capital city, 11 % in public utilities, 5 % in telecommunications, and 7 % for other.

4.3. Conclusions

From what above the following conclusions may be drawn on the country's economic trend over the period 1966-78:

- GDP growth in real terms was satisfactory, though apparently declining over time.

- Irrespective of factors out of control, structural reasons may have contributed to declining growth rates. These may include decreasing marginal productivity in both the primary and secondary sectors.
- Decreasing growth rates were especially recorded in agriculture GDP and more specifically in the non-monetary output, which is responsible for subsistence of by far the largest part of the population. Main reason for this is likely to be increasing shortage of good-grade agriculture land, calling for increasingly high reclamation, infrastructure and extension service cost.
- Decreasing growth rates also affected the manufacturing sector, whose sustained growth after exhaustion of the most obvious import-substitution opportunities may call for higher capital, technological and technical inputs.
- The above arguments seem to be strongly supported by the high employment elasticity apparently affecting the agricultural and manufacturing sectors (1); and by current low output-capital ratios and investments per job.
- Whereas past achievements have lagged not so far behind targets, more favourable long-term targets should be expected from new development approaches, such as are anticipated by new large agro-industrial projects, and from a more challenging approach to industrial development.
Financial resources for viable projects should be available from private, multilateral and bi-lateral institutions.

(1) Defined as the ratio of employment growth rate to GDP growth rate.

Figures of 1.30 and 1.90 are quoted by the World Bank for the agricultural and manufacturing sectors, which are likely to be underscored, especially for agriculture, due to exclusion of some 35.000 employed in establishments with less than 20 workers. These figures compare however very badly with 0,32 and 0,69 quoted for public utilities and other services in the same World Bank report.

5. THE FOREIGN TRADE STRUCTURE

5.1. Exports

Table No 6. shows the monetary structure of exports over the period 1966-78, along with the quantitative composition of main exported agricultural commodities.

It may be seen that non-agricultural exports on total exports did not exceed 4 % all over the period.

Except for 1978, the value of domestic exports grew mainly because of improved terms of trade. In fact, due to increased domestic demand and/or for other reasons declining output, exported quantities generally grew at a lower rate than export values.

The most remarkable exception were rice and sugar, whose prospects are ever increasing exports following the new sugar mill project. Tobacco, tea and ground nuts appear still to have a favourable trend, whereas maize exports appear to have dropped for both meteorological adverse condition and increased domestic demand.

5.2. Imports

Table No. 7 shows structure and growth of imports by main end use over the period 1965-78.

It would appear that total import values raised by a higher rate than exports and GDP at current prices.

Consumer goods recorded by far the lowest growth rate than any other import item, and values appear to have increased by a lower rate than price indices.

Highest rates were recorded for building materials, in line with the planned new capital city and infrastructure; and for capital goods. As consistent with a growing economy, capital goods imports grew at a rate by far higher than total GDP and imported materials for industry, evidencing the country's current stage of capital formation.

5.3. Direction of trade

Table No. 8 shows the main trading partners by origin and destination, over the period 1964-76.

It would appear that the United Kingdom is by far the most important importer, followed by the United States and South Africa. Exports to

Rhodesia were steadily declining from a high 14 % in 1964; whereas exports to Zambia from a peak 8 % in 1969 also declined and seem to have stabilized at about 4 %.

On the import side, South Africa steadily increased its share up to 29 %, followed by the U.K. with a share declining down to 22 %. Zambia also declined from a high 10 % in 1966 to no more than 1 %, and the same trend is recorded for Rhodesia.

Other available statistics for the period 1977-78 do not appear to reflect major changes.

Visible trade with Mozambique appears to be very small, if any.

However, trade with bordering countries may be expected to increase, after settlement of still pending political problems.

6. THE INDUSTRIAL SECTOR

6.1 - The 1973 industrial census

An industrial survey covering establishments with more than 20 employees was conducted in 1973 by the National Statistical Office, through the period 1971-73.

Main data concerning employment, wages, output and value added were reported in the UN 1976 Yearbook Statistics, from which aggregates at ISIC 2-digit level were drawn (see table No. 9).

The following remarks apply:

- Value added per employee and value added to gross output ratio were apparently decreasing, especially for the largest ISIC divisions 31 and 32 (food and textiles)
- The basic metal industry division (ISIC 37) is not represented at all
- The most dynamic divisions appear to have been Wood and Products; Metal Products and Machinery (1); Non-metal Products (mainly cement).
- Food and textiles kept being the largest contributors to value added, though by a declining share.

Although no financial details are given by the above quoted UN source, the average cost per job is reported to have been in the range of K 1.300, and profits before tax averaged 24 % on fixed assets and 13 % on total assets. This would appear to be in line with a relatively low wage and depreciation content of value added.

6.2 - The manufacturing structure

A rough structural analysis of the manufacturing sector in 1978 was attempted on the basis of scattered information available from different sources. This is shown in table No. 10 at ISIC 4-digit level, and would allow for the following general remarks:

ISIC 311-312: Food manufacturing

This appears to be essentially geared to meet basic demand by population inside the monetary economy. Irrespective of tobacco and tea processing, only sugar factories appear indeed to have sizeable export possibilities. No evidence is available about

(1) Maintenance workshops were apparently included, which are usually classified under ISIC 951

food canning capacities, and exports appear to be limited to some shipment of pig meat to Nigeria, and of frozen or smoked fish to bordering countries. No industrial enterprise appear to be operating in animal feed preparations, for which local raw materials should be largely available. No major development has been given to industries processing important by products such as molasses except some ethylic alcohol.

ISIC 32: Manufacture of textiles, wearing apparels

This division has apparently undergone major development especially through successive expansion of its most important textile establishment. This appears to be intended to cope with most of the current imports and to improve the output's value added content (see para 6.1).

Leather and footwear activities are apparently under strong development, following implementation of the BATA project.

ISIC 33: Wood and wood products

This mostly includes small firms engaged in furniture and joinery. However a large project is reported to be under study for the production of particle board, with large export perspectives.

ISIC 34: Paper and products

This appears to be a well diversified sector, including manufacture of tissue paper, paper-board and containers, and printing and publishing. A giant pulp mill is under study, whose implementation would open new industrial development avenues through several back- and forward industrial linkages.

ISIC 35: Chemicals

This is mainly represented by a large wholesale pharmaceutical business with some apparently minor blending and packaging operation; some firms engaged in soap production; a new fertilizer plant intended to blend and granulate components to be imported from South Africa through Rhodesia and Mozambique (1). A large rubber growing and processing project is reported to be under study by a private foreign firms and INDEBANK. A number of plastic products are also manufactured, including PVC pipes, bottles, containers and bags.

(1) Starting operations have been delayed due to the closure and lack of capacity of the Mozambique railway system :

ISIC 36: Non-metallic mineral products

This includes a portland cement plant, presently under expansion; some a brick and tile factories; and possibly some small firms producing pottery.

ISIC 37: Iron and steel basic industry

As already remarked, this activity was not represented until recently. However a medium-size foundry is reported to be under study, possibly including grey iron and non-ferrous casting facilities.

ISIC 38: Metal products, machinery and equipment

Irrespective of a number of small workshops, usually classified under ISIC 951, this ISIC division includes manufacturing of hoes and other agricultural implements; structural steel, tin cans for food products, corrugated sheets from imported galvanized material; and enameled and aluminium products, possibly kitchen-ware. Some other projects are reported to be under study, such as cars and trucks assembly, and bolts and nuts.

7. PROSPECTIVE DEVELOPMENT GUIDELINES

7.1 - Scope for industrial development

The country's socio-economic setting in 1970 may be resumed as follows: low per capita income and skewed income distribution; 2.3. million labor force, 250,000 wage earners and as many migrant workers; employment, GDP and export structure dominated by the primary sector; increasing external trade deficit and domestic resource gap; saving and investments steadily improving from 1964, but still by far lower than development needs; high infrastructural requirements.

The "1971-80 Statement of Development Policy" was intended for further stimulation of the development process through a sustained export growth, a higher manufacturing contribution to total GDP, and the implementation of a National Rural Development Plan to assist subsistence farming for about 1.2 million households. This appears to be an optimal approach to the Country's problems in the general context of financial, technical and human constraints.

Achievements appear so far to be lagging behind targets, the most apparent reasons being facts out of control, such as meteorological and political events and, more recently, declining international terms of trade for some export commodities. These facts have clearly affected the whole economy, but especially agriculture and, though at a lesser extent, the manufacturing activities. However all throughout the foregoing economic analysis evidence has been found for concurrent reasons such as declining marginal productivity in both of the above two sectors.

Indeed, irrespective of probably increasing disguised unemployment, shortage of good-grade land, higher reclamation and infrastructural costs, and expensive marginal inputs are likely to underlie declining agricultural productivity, especially in small-holders farming.

Similarly, decreasing opportunities for low-technology, labour-intensive activities are likely to underlie the incipient declining trend of the manufacturing sector.

It would therefore appear that new avenues should be explored in both sectors to sustain the Country's economic growth, most of them being likely to pose increased financial and technical problems.

Precursors of such new development stage, with their implied back- and forward linkage industries, may well be the Dwangwa Sugar Mill and the Viphia Pulp Project, though for the latter a world of warning may be in point concerning technological and scale choices over time.

7.2 - Broad development guidelines

A detailed structural analysis of the current manufacturing sector and of the external trade with the bordering, regional and extra-regional partners would show specific demand- and export-based opportunities.

At this introductory stage, however, only the following broad guidelines may be envisaged on the basis of our tentative approach:

Food manufacturing (ISIC 31)

This would appear to be one of the most prospective ISIC division in so far as local processing of some agricultural products and by-products could increase exports value added and foster additional domestic activities. These would e.g. be the case of meat, which could be exported as frozen packed selected cuts, and by-product could be re-cycled as a meal; of oil-seeds to be locally milled, with surplus oil exported and cakes used as animal feeds; of corn to be processed into starch and glucose. A specially interesting case would be cane molasses, whose optimal utilization among many possibilities might require a special study.

Textiles, wearing apparels and footwear (ISIC 32)

The current trend for increased local processing of cotton fibres could be given additional emphasis leading to export of grey cotton fabrics, and of wearing apparels for the regional market. Main comparative advantage would be cheap yet fairly productive manpower.

Wood and products (ISIC 33)

Eventual implementation of the large particle board project currently under study, and a possible plywood factory would open new bordering export markets for both the intermediate products and especially designed furniture.

Pulp and paper, and paper products (ISIC 34)

The Viphia project currently under study could include a news-print mill, with import-substitution impact and an apparently safe regional market. Surplus bagasse from the modern Gwandwa sugar mill might directly supply a tissue paper mill concurrently using waste paper and cotton lint or possibly a furfural plant.

Chemicals, rubber and plastic products (ISIC 35)

Additional operations may include production of industrial gases such as acetylene, oxygen and eventually nitrogen, whose demand is likely to increase in line with the development of some food industries. Major development (and commitments) would be involved in the production of basic chemicals in increasing demand by the textile industry, the future pulp (and paper) mill, and the possible exploitation of the bauxite and phosphate known deposits. Finally, additional direct and induced development would come from the possible implementation of a rubber growing and processing project under study.

Non-metallic mineral products (ISIC 36)

Modern kilns strategically wide-spread all over the country might supply good-grade lime as a cheap and wholly autarkic substitute for some cement, making available additional cement surplus for exports. Exploitation of kaolin and plastic clay known deposits could foster ceramic and pottery industries of some importance; and locally available vermiculite could find interesting applications in agriculture and in the construction industry.

Basic metal industry (ISIC 37)

Implementation of a metal foundry project under study would fill an important gap in the industrial structure, by providing facilities for a wide range of spare-parts and metal-wares presently imported. A small hot rolling mill for light long products from imported billets could eventually be taken into consideration, provided that a minimum 15,000 ton output might find outlets in the domestic and foreign bordering markets.

Fabricated metal products, machinery and equipment (ISIC 38)

Irrespective of maintenance workshops, improperly classified under ISIC 38, (which are likely to be responsible for a major share of the division's value added, and its second highest value added per employee) the weight of this ISIC division appear to be not proportionate to the economy as a whole and in particular to the requirements of an expectedly growing domestic demand.

Scopes for major development of this division appear to be manifold, and would be readily identified through an itemized analysis of current imports and an appropriate in-field survey.

7.3 - Constraints to industrial development

The above broadly outlined development opportunities will however have to be adequately checked against a set of commercial, technical and financial constraints; and eventually appraised and rated for priority, in the light of comparative advantages and according to the Government development policy

In the general framework defined by such policy, a pragmatical approach to the evaluation exercise would be offered by basic targets clearly formulated in the "1971-80 Statement of Development Policies", which appear in principle to be still valid, except for some emphasis displacement due to the last decade's expected achievements.

These appear indeed to have induced basic changes in the economic and financial conditions, requiring or allowing to explore additional development avenues.

TABLE No. 1

EMPLOYMENT AND WAGES BY MAIN ECONOMIC SECTORS

	WAGE EMPLOYMENT (a)			% growth rate	Average monthly wages Kwacha			
	thousand		(b)		1968		1978	
	1972	1978			1968	1972		
				68-72	72-78	1968	1972	1978
Agriculture, forestry, fishing	50.8	73.8	167.9	9.8	14.6	8.1	9.0	14.2
Manufacturing	14.4	20.4	35.0	9.3	9.5	25.3	38.5	45.5
Construction	13.5	18.3	31.6	8.0	9.5	18.9	26.1	37.4
Public utilities	1.4	2.1	2.9	11.0	5.5	35.1	38.1	55.4
Distribution + Communication	14.6	20.5	44.7	9.5	13.3	41.4	51.1	59.30
Government and other	38.1	55.1	54.0	9.8	(-2.0)	39.0	37.4	68.9
<u>Total</u>	<u>132.8</u>	<u>190.2</u>	<u>336.1</u>	<u>9.4</u>	<u>10.0</u>	<u>24.3</u>	<u>26.8</u>	<u>34.5</u>
of which								
Government	43.7	57.9	69.9	7.4	3.0	20.3	30.1	49.3
Private	89.1	132.3	267.2	9.8	12.4	32.5	25.4	30.8

Sources: World Bank Report 1677 a - MAT
Economic Planning Division, Economic Report 1979

Remarks: (a) comprises only employment in establishments with 20 or more employees
(b) estimate according to past trend

Table No.2

Gross Domestic Product by Main Sectors (million Kwacha)

	OLD SERIES (Current factor cost)					NEW SERIES (constant factor cost)				
	1964	1965	1970	1971	1972	1973	1975	1976	1977	1978
<u>Agriculture, forestry and fishing</u>	<u>85.0</u>	<u>29.8</u>	<u>125.4</u>	<u>152.3</u>	<u>180.5</u>	<u>180.0</u>	<u>189.5</u>	<u>204.5</u>	<u>216.3</u>	<u>223.4</u>
- monetary: small holders states	{ 21.9	{ 28.2	{ 37.3	{ 47.1	{ 60.6	37.0	33.0	42.2	48.8	51.3
- non-monetary	63.1	71.6	88.1	112.2	119.9	124.3	132.1	135.5	139.0	142.6
<u>Manufacturing</u>	<u>13.6</u>	<u>16.8</u>	<u>38.3</u>	<u>39.6</u>	<u>43.6</u>	<u>45.0</u>	<u>53.8</u>	<u>52.6</u>	<u>58.2</u>	<u>63.1</u>
- monetary	8.9	11.2	31.8	32.6	36.4	37.5	45.8	44.4	49.8	54.5
- non-monetary	4.7	5.6	6.5	7.0	7.2	7.5	8.0	8.2	8.4	8.6
<u>Construction</u>	<u>5.6</u>	<u>6.6</u>	<u>13.8</u>	<u>16.7</u>	<u>19.9</u>	<u>18.2</u>	<u>20.9</u>	<u>20.9</u>	<u>21.7</u>	<u>28.1</u>
- monetary	3.3	3.9	10.2	13.2	16.1	14.4	16.9	16.7	17.5	23.8
- non-monetary	2.3	2.7	3.6	3.5	3.8	3.8	4.0	4.1	4.2	4.3
<u>Electr., water, sanitation</u>	<u>1.1</u>	<u>1.3</u>	<u>2.9</u>	<u>3.6</u>	<u>3.8</u>	<u>4.6</u>	<u>6.0</u>	<u>6.4</u>	<u>6.7</u>	<u>7.0</u>
<u>Distrib. and communications</u>	<u>17.5</u>	<u>21.9</u>	<u>35.0</u>	<u>54.1</u>	<u>58.3</u>	<u>67.5</u>	<u>75.8</u>	<u>79.6</u>	<u>83.7</u>	<u>91.7</u>
<u>Government and Others</u>	<u>25.7</u>	<u>27.5</u>	<u>41.1</u>	<u>43.4</u>	<u>50.0</u>	<u>51.3</u>	<u>75.0</u>	<u>79.3</u>	<u>97.1</u>	<u>102.6</u>
<u>Total GDP at current factor cost</u>	<u>148.5</u>	<u>173.9</u>	<u>256.5</u>	<u>316.7</u>	<u>356.1</u>					
at current market price	153.4	180.8	273.9	339.2	380.0					
at constant market price	153.4	174.3	228.8	259.1	284.7					
<u>Growth rate at constant market price</u>		<u>13.7</u>	<u>13.1</u>	<u>13.3</u>	<u>9.9</u>					
<u>Total GDP at constant factor cost</u>						<u>376.6</u>	<u>421.0</u>	<u>443.2</u>	<u>483.7</u>	<u>514.9</u>
at current factor cost						376.6	538.1	616.0	726.1	836.4
at current market price						401.6	571.0	646.0	769.3	896.2
<u>Growth rate at constant factor cost</u>							<u>9.5</u>	<u>4.0</u>	<u>9.0</u>	<u>6.5</u>

Sources: World Bank Report 1677a/MAI; Economic Planning Division, Economic Report 1979.

Table No. 3

GDP Structure and Growth Rates 1964-78

	<u>1964-72 at constant market price</u>		<u>1973-78 at constant factor cost</u>	
	<u>Structure %</u>	<u>% Growth rate</u>	<u>Structure %</u>	<u>% Growth rate</u>
	1964	1972	1973	1978
				'73-'78
<u>Agriculture, forestry and fishing</u>				
- monetary: small holders	57.2	50.7	47.9	43.6
estates	{ 14.7	{ 17.0	9.8	10.0
			5.5	5.8
- non-monetary	42.5	33.7	33.1	27.8
				3.0
<u>Manufacturing</u>				
- monetary	9.2	12.2	12.0	12.3
- non-monetary	6.0	10.2	10.0	1.7
	3.2	2.0	2.0	10.6
				2.9
<u>Construction</u>				
- monetary	3.8	5.6	4.8	5.2
- non-monetary	2.2	4.5	3.8	4.7
	1.6	1.1	1.0	0.8
				2.5
<u>Electricity, sanitation, water</u>				
	0.7	1.1	1.2	1.4
				8.8
<u>Distribution and communication</u>				
	11.8	16.4	18.0	17.7
				6.0
<u>Government and Others</u>				
	17.3	14.0	13.7	20.0
				14.5
<u>Total GDP at current factor cost</u>				
current market prices	100.0	100.0		
constant market prices				
				11.5
				12.0
				8.0
<u>Total GDP at constant factor cost</u>				
current factor cost				
current market price				
				6.4
				17.2
				17.2

TOTAL DOMESTIC SUPPLY AND DEMAND (Kwacha million)

Table No.4

	1964	1965	1970	1971	1972	1973	1975	1976	1977	1978
<u>TOTAL DOMESTIC SUPPLY</u>	<u>164.9</u>	<u>196.2</u>	<u>264.6</u>	<u>294.3</u>	<u>332.1</u>	<u>438.3</u>	<u>675.0</u>	<u>685.0</u>	<u>802.9</u>	<u>1035.7</u>
<u>GDP at current market price</u>	<u>153.4</u>	<u>174.3</u>	<u>228.8</u>	<u>259.1</u>	<u>284.7</u>	<u>401.6</u>	<u>571.0</u>	<u>646.0</u>	<u>769.3</u>	<u>896.2</u>
<u>Add Imports</u>	<u>39.7</u>	<u>55.1</u>	<u>94.5</u>	<u>106.5</u>	<u>124.2</u>	<u>136.8</u>	<u>252.0</u>	<u>211.0</u>	<u>252.0</u>	<u>326.9</u>
- merchandise, f.o.b.									165.2	221.9
- services									86.8	105.0
<u>Ded. Exports</u>	<u>28.2</u>	<u>33.2</u>	<u>58.7</u>	<u>71.3</u>	<u>76.8</u>	<u>100.1</u>	<u>148.0</u>	<u>172.0</u>	<u>218.4</u>	<u>187.4</u>
- merchandise, f.o.b.									180.4	157.4
- services									38.0	30.0
<u>TOTAL DOMESTIC EXPENDITURE</u>	<u>164.8</u>	<u>202.7</u>	<u>309.7</u>	<u>374.3</u>	<u>427.4</u>	<u>438.3</u>	<u>675.0</u>	<u>685.0</u>	<u>802.9</u>	<u>1035.7</u>
<u>Fixed investments</u>	<u>13.2</u>	<u>19.3</u>	<u>50.2</u>	<u>53.1</u>	<u>73.1</u>	<u>76.7</u>	<u>145.6</u>	<u>140.7</u>	<u>158.4</u>	<u>265.9</u>
- monetary, Government	7.9	13.4	28.6	30.5	41.9	45.8	89.1	85.0	72.1	105.0
Public Corp.									30.0	58.2
Private	4.0	4.3	19.5	20.5	29.0	28.6	52.8	51.5	52.0	98.2
- non-monetary	1.3	1.6	2.1	2.1	2.2	2.3	3.7	4.2	4.3	4.4
<u>Change in Stock</u>	<u>-1.2</u>	<u>6.3</u>	<u>8.5</u>	<u>11.6</u>	<u>16.3</u>	<u>14.4</u>	<u>16.0</u>	<u>-28.0</u>	<u>10.6</u>	<u>17.2</u>
- monetary	-2.0	5.4	7.9	5.0	13.7	9.4	18.0	-30.0	8.5	15.0
- non-monetary	0.8	0.9	0.6	6.6	2.6	5.0	-2.0	2.0	2.1	2.2
<u>Consumption</u>	<u>152.8</u>	<u>177.1</u>	<u>251.0</u>	<u>309.6</u>	<u>338.0</u>	<u>347.2</u>	<u>513.4</u>	<u>572.3</u>	<u>633.9</u>	<u>752.6</u>
- monetary, Gov.+ Publ. Corp.	23.8	26.8	45.5	47.1	46.3	50.4	68.9	73.9	83.5	119.4
Private	58.6	69.9	106.4	144.8	162.1	164.0	246.0	276.7	311.2	387.8
- non-monetary	70.4	80.4	99.1	117.7	129.6	132.8	198.5	221.7	239.2	245.4

Source: World Bank Report 1677a-MAI
Economic Planning Division, Economic Report 1979

SAVINGS AND INVESTMENTS

	Old Series	New Series				
	1964	1973	1975	1976	1977	1978
<u>TOTAL INVEST.REQUIREMENTS</u>	<u>12.0</u>	<u>91.1</u>	<u>161.6</u>	<u>112.7</u>	<u>169.0</u>	<u>283.1</u>
<u>Fixed investments</u>	<u>13.2</u>	<u>76.7</u>	<u>145.6</u>	<u>140.7</u>	<u>158.4</u>	<u>265.9</u>
- Monetary					154.1	261.5
- non-monetary					4.3	4.4
<u>Change in stock</u>	<u>-1.2</u>	<u>14.4</u>	<u>16.0</u>	<u>28.0</u>	<u>10.6</u>	<u>17.2</u>
- monetary					8.5	15.0
- non-monetary					2.1	2.2
<u>TOTAL INVEST.RESOURCES</u>	<u>12.0</u>	<u>91.1</u>	<u>161.6</u>	<u>112.7</u>	<u>169.0</u>	<u>283.1</u>
<u>Domestic savings</u>	<u>0.5</u>	<u>54.0</u>	<u>71.0</u>	<u>72.7</u>	<u>135.4</u>	<u>143.6</u>
- monetary					129.0	137.0
- non-monetary					6.4	6.6
<u>Net factor income</u>	<u>-6.1</u>	<u>0.8</u>	<u>10.3</u>	<u>-18.0</u>	<u>-23.0</u>	<u>-4.0</u>
<u>National savings</u>	<u>-5.6</u>	<u>54.8</u>	<u>81.3</u>	<u>54.7</u>	<u>112.4</u>	<u>139.6</u>
<u>Other resources</u>	<u>17.6</u>	<u>36.3</u>	<u>80.3</u>	<u>58.0</u>	<u>56.6</u>	<u>143.5</u>
Net foreign transfers					23.0	37.8
Capital inflows, errors, etc.					85.9	90.4
External reserves					-52.3	15.3
Domestic resources gap	11.5	37.1	90.6	40.0	33.6	139.5
<u>Ratios on GDP of</u>						
- total investments	7.8	22.7	28.3	17.4	22.0	34.0
- fixed investments	8.6	19.1	25.5	21.8	20.1	31.9
- domestic savings	0.3	13.4	12.4	11.2	17.6	16.2
- domestic resource gap	7.5	9.2	15.9	6.2	3.8	16.8
National savings/GNP	-3.8	13.6	14.0	8.7	15.1	15.7
Resource gap/investm.	96 0	40.7	56.1	35.5	20.0	49.9

Sources: World Bank Report 1677a-MAI
Economic Planning Division, Economic Report 1979

STRUCTURE OF EXPORTS

	1964	1972	1973	1974	1975	1976	1977	1978 a)
<u>Total Domestic Exports</u>					millions Kwacha			
Agriculture								
- small holders	23.1	55.1	68.8	89.5	106.4	134.3	172.0	151.4
- estates	22.1	52.0	63.5	82.7	98.6	133.2	160.5	141.4
	12.2	26.3	28.0	31.9	32.7	46.4	--	--
	9.9	25.7	35.5	50.8	65.9	86.8	--	--
<u>Manufactured goods and other</u>	1.0	3.1	5.3	6.8	7.7	8.7	11.5	10.0
				metric tons				
Tobacco	13.3	24.6	27.5	27.4	32.5	33.9	--	--
Ground nuts	15.8	35.7	27.4	20.7	21.8	28.7	--	--
Maize	13.7	36.8	36.3	31.0	--	--	--	--
Cotton fibre	4.2	4.8	2.5	2.5	2.1	2.2	--	--
Pulses	24.7	15.7	6.8	4.1	5.1	5.4	--	--
Cassava	4.1	28.2	27.8	5.7	8.0	8.0	--	--
Rice	1.3	7.2	14.3	11.1	5.4	--	--	--
Coffee	0.2	0.2	0.2	0.2	--	--	--	--
Sun flower seed	--	3.7	3.0	4.9	2.9	--	--	--
Tung oil	1.3	0.5	0.8	0.6	0.5	--	--	--
Tea	12.2	19.9	22.7	23.8	24.9	29.7	--	--
Sugar	--	3.6	18.0	23.1	31.2	46.1	--	--

Sources: World Bank Report 1677 a-MAI and Economic Report 1979

Remarks: a) Estimate

TABLE NO. 7

STRUCTURE OF IMPORTS BY END-USE

% growth 1962 - 78	% growth rate 1966/78	- Structure %		millions Kwacha							
		65/67 aver.	1978	65/67 aver.	72	73	74	75	76	77	78
<u>TOTAL IMPORTS</u>	<u>14.7</u>	<u>100</u>	<u>100</u>	<u>54.8</u>	<u>102.9</u>	<u>114.7</u>	<u>157.7</u>	<u>218.7</u>	<u>188.1</u>	<u>209.8</u>	<u>284.5</u>
<u>Consumer goods</u>	<u>7.8</u>	<u>25</u>	<u>12</u>	<u>13.8</u>	<u>18.1</u>	<u>19.2</u>	<u>26.0</u>	<u>30.5</u>	<u>22.3</u>	<u>28.8</u>	<u>34.1</u>
- non durable	"	21	"	11.7	15.3	16.5	22.3	24.4	19.3	"	"
- durable	"	4	"	2.0	2.8	2.7	3.7	6.1	3.0	"	"
<u>Plant, machinery + equipment</u>	<u>18.2</u>	<u>11</u>	<u>18</u>	<u>5.8</u>	<u>12.3</u>	<u>14.5</u>	<u>19.2</u>	<u>27.3</u>	<u>28.4</u>	<u>34.7</u>	<u>51.2</u>
<u>Transport means</u>	<u>14.7</u>	<u>13</u>	<u>13</u>	<u>7.1</u>	<u>16.8</u>	<u>16.4</u>	<u>22.1</u>	<u>35.0</u>	<u>26.4</u>	<u>22.8</u>	<u>37.0</u>
- motor cars, bicycles		4		2.4	2.3	3.4	3.8	4.5	2.9	"	"
- other		9		4.7	14.5	13.0	18.3	30.5	23.5	"	"
<u>Materials for bldg.</u>	<u>20.8</u>	<u>7</u>	<u>12</u>	<u>3.6</u>	<u>10.3</u>	<u>10.3</u>	<u>13.3</u>	<u>17.0</u>	<u>19.5</u>	<u>16.5</u>	<u>34.1</u>
<u>Materials for industry</u>	<u>14.4</u>	<u>41</u>	<u>39</u>	<u>22.2</u>	<u>44.0</u>	<u>53.4</u>	<u>76.4</u>	<u>107.6</u>	<u>90.7</u>	<u>106.2</u>	<u>110.9</u>
- cloth for manufacture (a)	14.0	11	14	6.1	4.1	9.2	6.3	8.2	5.2	33.7	39.8
- fuel and lubricants		4		2.1	8.4	5.0	15.0	19.8	13.9		
- other	13.6	26	25	14.0	31.5	39.2	55.1	79.6	61.6	72.5	71.1
<u>Other</u>	<u>16.5</u>	<u>4</u>	<u>6</u>	<u>2.3</u>	<u>1.4</u>	<u>0.8</u>	<u>0.8</u>	<u>0.8</u>	<u>0.8</u>	<u>17.1</u>	<u>17.1</u>

Sources: World Bank Report 1677 a -- MAI and Economic Report 1978 and 1979

Remarks: (a) includes cloth for direct consumption

Reexports are mainly some fuel (0.5 mK in 1964 and 0.1 mK in 1975); and Zambian tobacco (0.4 mK in average)

TABLE No. 8

DIRECTION OF TRADE, 1964-76
PERCENTAGE SHARE OF MAIN TRADING PARTNERS

I. Exports by Country of Final Destination

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
United Kingdom	48	47	48	35	51	46	48	44	43	39	36	41	44
Southern Rhodesia	14	10	6	4	5	7	8	7	6	6	8	7	2
South Africa	5	4	3	3	5	3	4	5	6	5	4	5	6
United States	3	3	3	3	4	6	3	5	5	8	10	8	11
West Germany	1	1	3	2	3	3	3	2	3	3	2	4	3
Zambia	1	1	2	2	2	8	4	5	3	4	4	3	2
Others	23	24	25	31	22	27	22	22	24	25	26	22	22
Total	100	100	100	100	100	100	100	100	100	100	100	100	100

II. Imports by Country of Origin

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
United Kingdom	23	25	31	28	31	30	26	28	30	25	23	24	22
Southern Rhodesia	39	36	23	31	18	17	23	15	16	15	13	12	3
South Africa	6	5	7	8	11	15	13	11	13	18	23	24	28
United States	2	3	3	3	6	4	4	4	2	2	3	4	3
West Germany	2	3	2	3	4	4	3	3	3	3	5	4	4
Zambia	3	2	10	7	4	4	4	4	4	5	3	2	3
Others	25	26	24	20	25	26	27	34	32	32	30	30	31
Total	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: National Statistical Office

TABLE No. 9

CENSUS OF INDUSTRIAL ACTIVITIES (NSO)

Code	15IC Divisions	Title of category	Mo. establishm			Persons employed			Wages Salaries			Gross output factor cost			V.A. factor cost			V.A. per employee			V.A. on output			
			'71	'73	'71	'73	'71	'73	'71	'73	'71	'73	'71	'73	'71	'73	'71	'73	'71	'73	'71	'73	'71	'73
2		<u>Mining and Quarrying</u>	4		0.5	0.4	0.1	0.1	0.4	0.1	0.4	0.3	0.2	0.2	400	500	50	67						
3		<u>Manufacturing</u>	136	134	22.2	26.8	8.7	11.4	21.2	128.2	26.5	29.2	1,194	1,090	29	23								
31		Food, beverages, tobacco	52	46	11.3	13.1	4.2	5.1	50.4	68.7	10.8	11.4	956	871	22	17								
32		Textile, clothes footwear	29	32	6.0	7.2	1.9	2.4	17.6	23.7	7.3	6.7	1,217	931	42	28								
33		Wood and wood products	11	14	1.4	1.9	0.4	0.7	1.8	4.2	0.8	1.7	572	895	44	41								
34		Paper prod., print. publishing	12	12	0.9	1.0	0.5	0.7	3.2	4.4	1.4	1.5	1,556	1,000	44	34								
35		Chemicals	11	11	1.0	1.2	0.7	1.0	9.8	13.2	3.0	2.8	3,000	2,334	31	21								
36		Non-metal products	40	5	0.5	1.5	0.5	0.8	2.2	3.3	1.1	1.5	2,200	1,000	50	46								
37		Basic metal industry	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
38		Metal prod. machinery	14	14	1.1	1.9	0.5	0.7	6.9	10.7	2.1	3.6	1,910	1,895	31	34								
4		<u>Public utilities</u>	3	6	1.3	1.9	0.8	1.2	4.3	5.5	2.4	3.1	1,847	1,632	56	56								

Source: IN Year Book Statistics, 1976

TENTATIVE STRUCTURAL ANALYSIS OF THE MANUFACTURING SECTOR (1978)

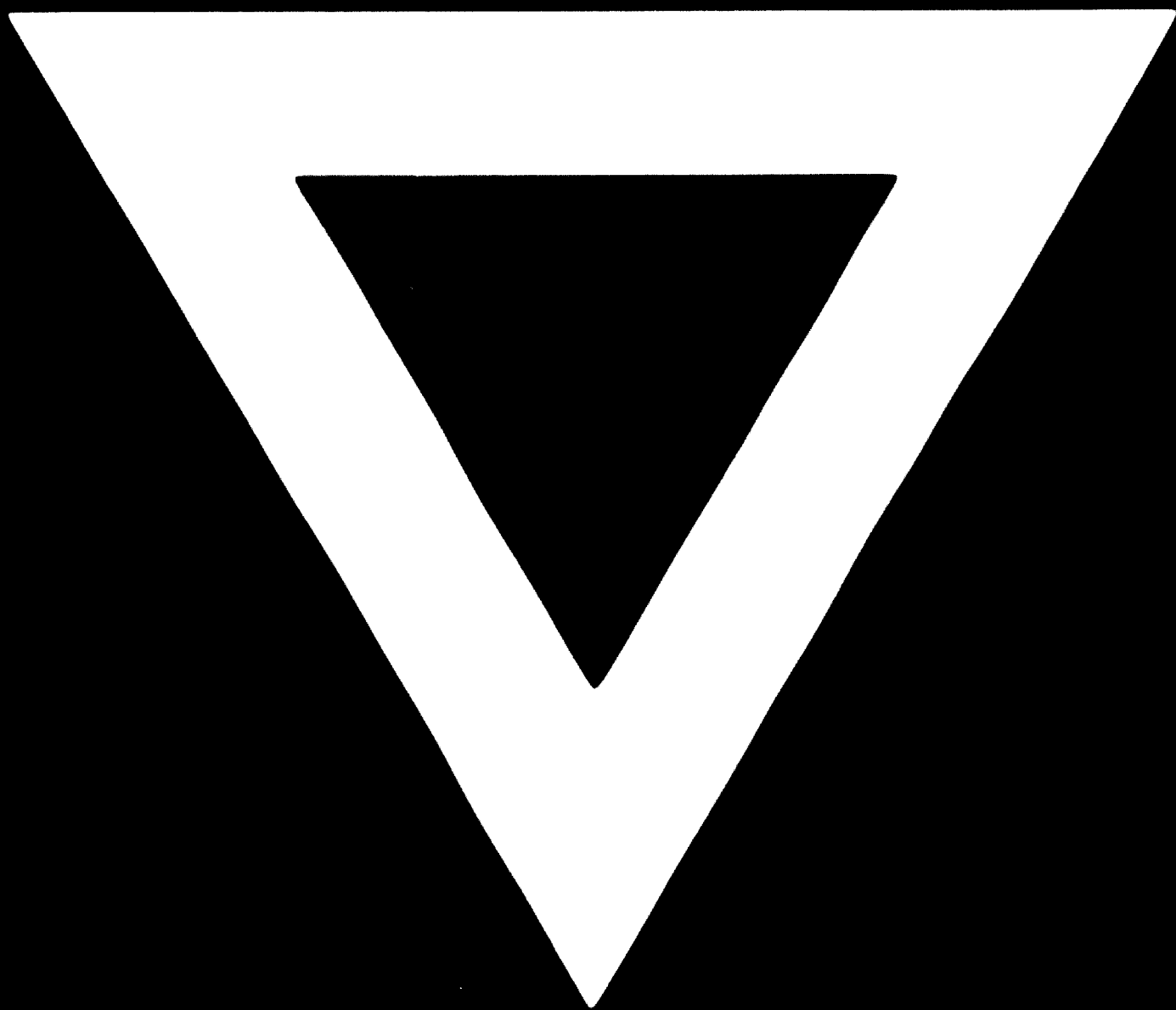
		Products
3111	<u>Slaughtering and meat processing</u> Cold storage Co. Ltd. New abattoir	Abattoirs, meat-quick freezing 8 process
3114	<u>Fish preserving</u> Fresh cold fisheries	Fish, quick frozen, canned, smoked, dried
3115	<u>Vegetable oils</u> National Oil Ind.	Cotton seed oil
3116	<u>Grain mill products</u> National Oil Industries Grain + Milling Co.	Milled and parboiled rice
3117	<u>Bakery products</u> Press Bakeries	Under expansion
3118	<u>Sugar factories</u> Shire Valley Sugar Co Dwangwa Sugar Co.	Under implementation
3119	<u>Cocoa + sugar confectionaries</u> Infusion life-savers project	Under study
3121	<u>Food products n.e.s.</u> Tea factory for small holders Other existing tea factories Airport catering	Under implementation
3131	<u>Distilled spirits</u> Malawi distilleries New project	Under study
3133	<u>Malt liquors</u> Carlsberg Malawi Brewery	Under expansion
3134	<u>Soft drinks</u> Southern bottles	Under expansion
3140	<u>Tobacco manufactures</u> Kasungu Flue-cured Tobacco Auth. General Farming Co. Malawi Tobacco Packers BAT Limbe Leaf	Under study Under study Under expansion Under expansion

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		Products
3211	<u>Spinning, weaving + finishing</u> David Whitehead + Sons	Under expansion
3213	<u>Knitting mills</u> Merolga Knitwear (MDC)	
3220	<u>Wearing apparels, exc. footwear</u> Small firms	
3240	<u>Footwear</u> BATA Small firms	Under study
33	<u>Wood and products</u> Partide boards The Match Co. Small firms	Under study
3411	<u>Paper and products</u> The Vipha project Tissue paper	Under study Under study
3412	<u>Containers + boxes of paper + paper board</u> Packaging Industries	Cardboard, packaging, under construction
3420	<u>Printing, publishing + Allied ind.</u> Blantyre Printing + Publ. Co.	Newspapers and other
3512	<u>Fertilizer + pesticides</u> Oprichem	Fertilizer blend. and granulation
3522	<u>Drugs + medicines</u> Malawi Pharmacies Ltd.	
3523	<u>Soap + cleaning preparation</u>	Small firms
3529	<u>Chemical products n.e.s</u> Oil recycling	Purifying used mineral oil, under study
355	<u>Rubber products</u> Vizara Rubber 2 small firms	Rubber growing and processing Tires rethreading
3560	<u>Plastic products n.e.s</u> Chibuku Packaging Polypropylene Liwonde Industrial Venture Pipe Extruders Plastic Products Ltd.	Plastic containers for tea, under study Propylene bags, under study Plastic sandals

		Products
3691	<u>Structural clay products</u> The Brick and Tile Co.	Possibly including pottery (1516 3610)
3692	<u>Cement, lime and plaster</u> The Portland Cement Co.	Under expansion
371	<u>Basic metal industry</u> Malawi Iron + Steel Corp.	Metal foundry, under study
3811	<u>Cutlery, hand tools + agr. hardware</u> AGRI MAL	Hoes and other agr. implements
3813	<u>Metal products</u> B. + C. Metal Products Can Makers Ltd.	Cans for food products
3819	<u>Metal prod. n.e.s. excl. machinery</u> Press Steel Industries Encor Products Nute and bolts	Galvanised corrugated sheets Enamel and aluminium goods Under study
382	<u>Machinery excl. electrical</u> Repair + maintenance workshops	Usually under ISIC 951
383	<u>Electrical machinery + apparatus</u> Ngeru Radio Radio + Electrical Services Ltd. Repair Workshops <u>Ship building + repair</u> The Lake Services Ltd. Small firms	Assembly of radio sets, manufacture of drye Installation + servicing Usually under ISIC 951 sell
3842	<u>Railroad equipment</u> Malawi Railways Workshop	Repair, maintenance and assembly
3845	<u>Motor vehicles</u> Assembly of cars and trucks Repair workshops	Under study

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